

# *The American Journal of* **CLINICAL MEDICINE** *Dependable Therapeutic Fact for Daily Use*

Vol. 23. No. 2

FEBRUARY, 1916

## Bouchard's Great Work

NEWS has come to us quite recently of the death of Bouchard; but as yet we have received few particulars. Whether he died peacefully in his bed we know not; but this we do know—and the world acknowledges—that even among that brilliant group of modern scientists who have done so much to make French medicine illustrious there is none who has accomplished more for the benefit of mankind than has Charles Bouchard.

Bouchard took for his special study the most common of human ailments—one whose existence was scarcely acknowledged until he placed it before the world with that clarity and force for which his race is noted. Just as his compatriot, Fournier, so plainly set forth the cardinal truths about syphilis—its perils, its clinical manifestations, and especially the extended course of treatment necessary for its eradication, so Bouchard in equally clear manner told us of the deleterious consequences of fecal autotoxemia and of its curative management. Regarding both we may truthfully say that there was not so very much of original discovery or of aught that was not already known in a general way to the medical profession; but, that is exactly why in both instances

the work was so speedily taken up and the teaching absorbed by the clinicians at large—we already knew the truth of the contentions set forth by these two acute observers.

Both men took the current beliefs and submitted them to scientific investigation by modern methods, giving us consistent proof of what we already had felt to be true. We knew that the urine was toxic—Bouchard told us what were the poisonous elements in it, and which of them induced convulsions and other symptoms. We believed that fecal toxins absorbed from the bowel were responsible for much disease and for even more cases of indefinite malaise—he showed us how to detect the toxins in the urine, and he recognized the clinical manifestations. He brought together the facts about elimination and assembled many scattered bits of knowledge, to make a harmonious working-hypothesis; which subsequently has been developed into a theory, one of the fundamental principles upon which our clinical work is founded.

Thanks to Bouchard, we now are in position to recognize readily the symptoms of fecal autotoxemia; and the elimination of this factor of disease forms an essential feature of our routine measures—quite as

generally as feeling the pulse and looking at the tongue. It is a matter of course now that treatment of any kind of disease shall be begun with emptying the bowels and keeping the urine free from indican and its congeners.

Naturally, Bouchard's propositions met the opposition invariably meted out to the promulgation of radical or revolutionary theories; but it is significant that so very little attention has been paid to the opposition by the body of practitioners. Somebody gets up to assert that "there is not a scintilla of proof that the theory of fecal toxemia is really true or that the symptoms ascribed to that condition are consequences of it"; but the experienced doctor listens to such statements much with the air of him who hears someone declare that there is no such thing in nature as gold, while the hearer has his pockets full of the precious metal. This happens to be one of the cases where every doctor has the right to an opinion of his own—his own experience constitutes him a qualified judge.

While there has been a rich development from Bouchard's original work, there has been practically nothing which he had to withdraw. Lane and others have simply built upon Bouchard's foundation, and found it substantial.

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Work dispels discouragement because it turns consciousness away from our disheartening littleness and lights up the big world—our world—of possible achievement.—R. C. Cabot.

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#### "GRIP" THAT IS NOT GRIP

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We are now in the midst of a pandemic of a disease that is ordinarily referred to as grip, but which, thanks to the bacteriologist, we know is not true influenza. This disease at present is epidemic from one end of the country to the other, but apparently is rather more severe throughout the upper Mississippi Valley than in the far west and the south. The United States Public Health Service has found the condition serious enough to warrant a general warning to the people of the country, in view of the very high death rate for which it seems to be responsible.

The organisms causing this disease, according to general agreement, are mainly various strains of streptococci and pneumococci, with a scattering of staphylococci, Friedlander's bacillus, micrococcus catarrhalis, and, perhaps least frequently of all, the influenza bacillus. The germs most common, most numerous, and mainly responsible for the disease are

the streptococcus and the pneumococcus, and the almost uniform presence of the latter undoubtedly explains the frequency with which pneumonia follows an attack.

The seriousness of the situation is pretty clearly shown by the death reports issued by the Chicago Health Department. Thus, prior to December 1, last, the number of deaths from pneumonia were in the neighborhood of, but did not exceed 50 per week. By December 11, the weekly number had mounted to 77; the report of December 18 gave the number of deaths as 108; that of December 25, 205; and that of January 1, the enormous total of 302 deaths in a single week from pneumonia.

The cases of this prevailing grip that have come to our attention present characteristics considerably different from those of influenza of prior years. The attacks are no less severe and the prostration temporarily is extreme; but cough is a less prominent symptom and recovery is much more rapid than in the former epidemics. In many instances, there is present a complicating conjunctivitis, aural and sinus troubles frequently occur, and sore throat is not uncommon and often severe, assuming characteristics not unlike the "streptococcic sore throat" epidemic in a number of our states some two or three years ago.

For a study of the bacteriology and bacterin treatment of this infection, we refer our readers to the fine paper by Doctor Bieln appearing elsewhere in this issue. At this point, we wish to support strongly the emphasis which he lays upon the danger of complicating pneumonia and the necessity for immediate and urgent treatment, not alone in order to cut short the attack, but to forestall the possibility of any possible pulmonary complication.

There is no doubt that prompt relief can be, and should be, secured in nearly every case by resort to a stock bacterin containing streptococci and pneumococci—either these two organisms alone or in association with staphylococci and (occasionally) Friedlander's bacillus, which latter also are sometimes factors. If a full dose of this bacterin is injected at the very beginning of treatment, in the majority of instances the severity of the attack will be ameliorated, and this is particularly true if there is a prompt reaction. Usually two doses of the bacterin are sufficient to produce the results desired.

However, no physician should rest his case on bacterin-therapy alone, valuable as this undoubtedly is in the prevailing epidemic.

There is one remedy that has a peculiar affinity for the respiratory tract, and that is iodine, this being eliminated in part through this channel.

Given in appropriate doses, particularly in combination with calcium—in the form of calx iodata—iodine can be depended upon to bring to the respiratory blood stream and the bronchial secretions a constant supply of this powerful antiseptic. It is this affinity of iodine for the respiratory mucosa that makes it a favorite remedy with so many physicians in all the diseases occurring in this area. It seems to be particularly efficacious in meeting and suppressing pneumococcic infections.

There are other remedies of almost equal value. Quinine is a favorite with many physicians, and, when given early, it undoubtedly does help to abort an incipient cold, probably because of its power of increasing phagocytosis. For the same reason, nuclein is indicated, while calcium sulphide is an active and effective germicidal agent that may well be given in alternation with other remedies.

If we were to select three agents of greatest value for aborting a beginning cold, these would be: calx iodata, quinine, and calcium sulphide.

In the febrile stages of these "grip" cases, the small, repeated doses of aconitine—alone or in the combinations represented by the two defervescent combinations, which contain veratrine, digitalin, and strychnine arsenate—will help to regulate the vascular apparatus and bring down the temperature, while relieving the pulmonary congestion.

Thorough and immediate purgation is also a necessity, especially at the beginning of the attack; and, where the upper air-passages are hyperemic, small, repeated doses of atropine or hyoscyamine, just to the point of producing slight dryness of the throat, will help to dissipate beginning congestion.

But, to recur to bacterin-therapy: In view of the tendency of these attacks of grip to become pneumonic, we urge again early resort to these vaccines; for, we are convinced that, if the indicated bacterins are administered to persons who are coming down with the disease, a protective immunity can be secured, with a saving of much sickness and very many lives.

Pneumonia is the new "captain of the men of death," claiming more victims each year than does tuberculosis, more than war, more than pestilence. Physicians should realize that it is distinctly a contagious disease, and

that, furthermore, the "harmless" common cold that makes it appearance in one's family and among one's neighbors, in very truth transmitted from hand to hand, and mouth to mouth, and home to home, is practically the cause of it all. It is a transmissible disease; but if you and I do our share, both in the way of education and in prophylactic treatment, it is quite within the reach of possibility for us to wipe this enemy of the race off the slate.

Let this be our slogan—"Pneumonia next!"

Ah Love! Could you and I with Him conspire  
To grasp this sorry scheme of Things Entire,  
Would not we shatter it to bits—and then  
Remould it nearer to the Heart's desire!

—The Rubaiyat.

### MAKE A GOOD APPEARANCE

The writer remembers an old joke, that was going the rounds of the funny papers when he was a young fellow, concerning a man who found a scrap of paper in his pocket, with hieroglyphics scribbled all over it, and who scratched his head in considerable perturbation as to whether it was a prescription from his physician or a check from the Chinese laundry.

This is an extravagant story, of course, but with a good-sized grain of truth in it. It is not so very long ago that it was considered quite professional to write prescriptions and letters in an almost undecipherable hand; indeed, a physician's reputation and standing were in direct proportion to the illegibility of his handwriting. Which, by the way, was pretty hard on the dispensing pharmacist; and I rather think it was because of the mistakes that the druggist made, very excusably, every once in a while, and the consequent protest of pharmacists as a class that this one time abominable habit of physicians fell into disrepute.

However that may be, happily, it is no longer regarded as a mark of erudition on the part of the doctor to scrawl so that nobody can decipher his writing, particularly prescriptions. Not at all, on the contrary, quite the reverse, as Artemas Ward used to say. We understand that the professional man in England still clings to his pen and ink; but in America even this practice, so far as its traditional aspect is concerned, has gone by the board—along with a great many equally foolish traditions—in favor of the more sensible modern use of the typewriter.

As has frequently been insisted upon in these pages, the practice of medicine, in itself,

is not, and never can be, a business; and latter-day attempts to turn it into a business not only have wrought all sorts of havoc with the profession, but have brought disappointment and heartburnings to those who have tried the experiment.

On the other hand, as has just so frequently been pointed out, there is not the slightest reason why the business functions that necessarily accompany the practice of medicine should not be carried out in a businesslike manner. In this country, at all events, we long ago have dismissed the groundless idea that good science and good business are incompatible; in fact, we have just about reached the opposite conclusion, namely, that a man can hardly be a good scientist, certainly not a good practical scientist, if he is not a good business man. At any rate, we have come to the point where the earmarks of a good business-like temperament predisposes us to a favorable estimate of a doctor's scientific capability.

This twofold characteristic, in fact, may be said to constitute the distinguishing mark between the old-fashioned and the modern up to date physician—the workman-like fitting of his workshop and the business-like appearance of his *entourage*. The former equips him to do good work; the latter bodies forth his value to the world, in precisely the same way (do not be offended for our saying it) that the store-window and advertising-matter display the character of a mercantile house.

Not, by any means, least among the features of this latter *accoutrement* is the neatness and elegance of his correspondence. A tasteful letterhead and prescription-blank, a neatly typewritten letter and prescription, these have immense influence in the opinion which the public forms of your character and efficiency; and rightly so, for they do actually reflect your attitude toward your clientele and your work. Those with whom your professional relations lie have a right to expect of you the courtesy and consideration expressed in such amenities; and if they find you slipshod in these little things they are justified in assuming that you are equally shiftless in the greater things.

In former days, a neglect of these matters might have been excused on the ground of prohibitive expense, but today no such excuse is valid. Not only are good stationery and serviceable typewriting-machines comparatively inexpensive, but the terms upon which the latter can, nowadays, be bought are within the reach of virtually every prac-

itioner. We are carrying, every month, in the advertising-pages of this journal the most liberal offers from typewriter concerns, which make it possible for every physician to conduct his correspondence and his prescription writing in accordance with twentieth-century demands. And, in fact, he *must* do so, if he is to keep up with the modern procession.

A small matter, you think? Yes, but small things make perfection; and perfection is no small matter! If you have not considered this before, doctor, do so now. Buy a typewriter, get yourself some highgrade, tasteful stationery, and make upon your clientele and correspondents an impression that is commensurate with your actual worth.

What'er you dream, with doubt possessed,  
Keep, keep it snug within your breast,  
And lay you down and take your rest;  
Forget in sleep the doubt and pain,  
And when you wake, to work again.  
The wind it blows, the vessel goes,  
And where and whither, no one knows.

'Twill all be well: no need of care;  
Though how it will, and when, and where,  
We cannot see, and can't declare.  
In spite of dreams, in spite of thought,  
'Tis not in vain, and not for nought,  
The wind it blows, the ship it goes,  
Though where and whither, no one knows.  
—Arthur H. Clough.

#### OUR ANNUAL INDEX

Following our practice of several years back, we did not bind the annual index with the December number of the journal. It has been prepared, however, with our usual care, and by the time this number if *CLINICAL MEDICINE* reaches you we hope it will be ready for distribution. A copy will be sent gratis to any subscriber requesting it. It is our sincere wish to give it the widest possible distribution among our readers, and, so, we hope that all, without exception, will write for it, and then have their journals nicely bound; for, as every careful reader will agree, a bound volume of *CLINICAL MEDICINE* constitutes a veritable encyclopedia of current medical knowledge. The physician who has on his shelves a series of these volumes can find in a moment just the help he needs in almost any emergency.

We are particularly proud of this year's index. It has been prepared with greatest care, by one who has specialized in the difficult work for many years. It is voluminously cross-indexed, and with all will be found indispensable to any busy practitioner who has acquired—as he certainly should—the index-habit.



Please send in your request immediately, right now—a postal card will do. We may add that we have in stock a limited number of the indexes for some of the preceding volumes; and a copy (while they last) will be sent to anyone wishing to bind back volumes.

Drudgery is as necessary to call out the treasures of the mind as harrowing and planting those of earth.—Margaret Fuller.

#### THE PROGRAM OF THE AMERICAN COLLEGE OF SURGEONS

We have received from John G. Bowman, director of The American College of Surgeons, a statement of the plans made for the development of the work of this organization. We learn that the 3400 Fellows of the College living in the United States and Canada have begun the new year by raising an endowment of \$500,000, this fund to be held in perpetuity, for the purpose of advancing the standards of surgical knowledge and training in America.

It is certainly indicative of its fine spirit, splendid organization, and remarkable capacity for teamwork that the College has been able to evolve, without friction or other difficulty, an intelligent plan for constructive work; and this plan is to find concrete expression, we are informed, along the following lines of activity, which are made possible by the endowment-fund now available:

1. The College purposes to supervise and standardize the preparation of students for the practice of surgery and allied specialties. The regents of the College will begin this work by asking every senior medical student who has in mind specialization in general or special surgery to register his name with the College. As these students serve later as internes and surgical assistants, careful record of their activities will be kept by the College, so that their ability, character, and fitness for admission to fellowship in the College may be determined; the purpose being, not only to utilize this preliminary supervision as a test for membership, but also to stimulate the young men themselves to do better work; all this with the view to the creation of a class of surgeons, in this country, of whom we may all be proud.

2. The College is planning to collect and classify all possible information relative to our American hospitals. This information will be published from time to time, in form available for distribution, and will deal with such problems as hospital equipment, laboratory equipment, the keeping of case-records,

the training of nurses, and the various forms of specialization essential to the conduct of any well-organized hospital. In other words, as we understand it, the purpose of the College is, to endeavor to "standardize" these institutions, with the object of improving the quality of all of them, in order to enable them to do better work.

3. The College expects to ask the faculties of our medical schools to consider the advisability of conferring a supplementary degree of efficiency in general surgery and in the various surgical specialties.

4. The institution will issue, from time to time, monographs of an educational nature relative to medicine and surgery, suitable for distribution among the general public, managers of hospitals, and the medical profession at large.

This program, we submit, is a splendid one—one which we believe will win the hearty approval and cooperation of the medical profession as a whole. During the early days of The American College of Surgeons, there was aroused a great deal of criticism of this organization within the profession, on the ground that it would have a tendency to create what was loosely called a "surgical trust."

Every physician is, necessarily, more or less of a surgeon. In America, at least, the welfare and the interests of the general practitioner and of the surgeon and other specialists are inextricably bound up with each other. The fear was expressed that any scheme of things intended to set one portion of the profession apart from and above the other would have an undesirable, undemocratic effect.

Such a possibility must, of course, be kept in mind, though we feel that an organization having the high ideals and the splendid purposes expressed in this general scheme for the betterment of one branch of the profession, in the end can work only good. Its excesses—if any such develop—are sure to be checked and controlled by the severest criticism. And, frankly, we hope there will be free, searching criticism, since this is the saving clause of our democracy; and we further fervently hope that the time never may come when the "holier than thou" spirit will control our medical institutions.

There is much in the plan of the American College of Surgeons, as outlined above, that may well be incorporated in the plans of the entire profession. The feature that particularly appeals to us is, that these plans are constructive, not destructive; that they aim

to build up rather than to tear down; that they begin at the bottom, with the membership; lastly, that the ultimate aim is, not, indeed, the creation of a special caste, that would try to run things by privilege or through politics; but, rather, the raising up of a generation of strong, well-informed, self-respecting, skilful surgical practitioners.

If there is any work that requires the delicacy and finesse of the college president, the corporation executive or the foreign diplomat it is that of the medical practitioner with a large and varied practice.—Edwin P. Haworth.

### KNOWING MIGRAINE—TREATING IT

The modern study of migraine began with Anstie, whose two books, "Stimulants and Narcotics" and "Neuralgia," set the world to thinking. Many phenomena described by Anstie are still acknowledged today as characteristic of the true neuralgias. Among these, he placed migraine; and that this is a neuralgia most of us will admit. However, in his day, autotoxemia had not been thought of; although before him the custom of the profession, to begin treatment, as a routine measure, by emptying the stomach and bowels, was a quite general one for the condition, the nature of which has since then been discovered. We look now upon the bad breath attending migraine, not as a symptom of that disease, but as evidence of its cause.

Not all cases of migraine are attributable to the intestinal tract. Some of these attacks attend menstruation too regularly to be accidentally coincident. Heredity is a recognized factor. Eyestrain, ethmoidal, nasal, aural, dental, and pharyngeal disease have all been shown to be so associated with migraine that specialists in each, seeing many cases in their own respective departments and none in the others, are prone to credit their own pet apparatus with the causation of every case of migraine.

To the foregoing causes, Shoyer adds the ductless glands as a probable source. This author calls attention to the cases that begin with the setting in of menstruation and end with the menopause. This leads him to surmise that there may be present some disorder of an internal secretion, from the thyroid or pituitary gland or the corpus luteum. If this be so, observations might be instituted concerning the influence of marriage upon women subject to migraine; in consideration of the consequent stimulation of the thyroid gland. The addition of thyroid or corpus luteum extracts to the eliminant remedies

always indicated might work well. Still, Shoyer rather spoils his own proposition by adding cannabis to his prescription. If this agent be requisite, then the influence of the animal-extracts can not be, in itself, sufficient. However, the influence of habit is always to be considered, for, any neurosis may persist after the original exciting cause has ceased to act.

Harrower, in a valuable contribution to *American Medicine*, cites some corroborative evidence. Kovalewski observed the disappearance of migraines during pregnancy, when the thyroid gland was stimulated to increased activity. Levi succeeded in six cases of migraine by giving thyroid extract. Charcot had noticed the connection between migraine and chronic rheumatism, and the relief of both by prescribing thyroid gland. Gauthier insists upon the connection between migraine and thyroid or ovarian disease.

Harrower suggests doses of luteal extract, 5 to 8 grains, with 1-4 to 1 grain of thyroid extract, three times a day for two weeks, this period ending just at the entrance of the menstrual period, the remedies to be omitted during the subsequent fortnight.

We are not convinced, and should limit the treatment to cases in which there are other evidences of thyroid-gland deficiency. Then, as is so frequently the case, we should probably find that the remedy given for the deficiency also benefited any other morbid condition present at the same time. Also, we should not omit that attention to the alimentary canal which alone cures so many migraines.

If you think you are outclassed, you are;  
You've got to think height to rise,  
You've got to be sure of yourself before  
You can ever win a prize.  
Life's battles don't always go  
To the stronger or faster man,  
But soon or late the man who wins  
Is the fellow who thinks he can.

### THE INDICATIONS FOR ALCOHOL

This journal has long since taken the stand that there is no true indication for alcohol as a medicine, and that its use as such is a mere excuse for indulgence or laziness. We assert that there is not a solitary application to which alcoholic preparations can be put for which there are not better remedies at our hand. The one reason for the use of alcohol as a remedy is, that it does so many things fairly well; and the lazy doctor contents himself with this, instead of finding the one remedy that is better in each case.

A plea for alcohol as a remedial agent appears in one of our exchanges, a journal of deservedly good reputation and high standards. We do not mention the name of this publication, since, in our opinion the argument presented for alcohol should be taken upon its merits, irrespective of the interests back of it. What concerns us is, the truth or the falseness of the thing, and not whether the article is engraved on tablets of gold or imprinted on pitch. Let us examine in detail the claims made by our colleague.

The first indication claimed for alcohol is when pneumonia occurs in a person accustomed to the daily taking of alcohol, though not necessarily to excess. Here, it is advised to give small doses of the stuff every three hours, to prevent the nervousness and depression occasioned even in health by stopping the stimulant.

More than a half century ago, N. S. Davis began the movement against the use of alcohol as a medicine, and this has steadily grown until now it is generally admitted that this agent is not the necessity it was then considered. This use in the pneumonia of drinkers was one of the last strongholds of the alcohol-advocate. Everyone who has tried impartially to do without it here has found Davis right and shown alcohol to be useless.

The chief peril in pneumonia is toxemia; yet, alcohol itself is a most potent cause of toxemia—it adds a danger here as in so many other cases. Such a patient needs elimination and cardionervous support; and his peril is greater than that of the nonuser of alcohol. Careful nutrition, coffee, cardiac tonics, and elimination will save more lives if the alcohol is omitted. Nervous phenomena indicate the need for more elimination and a suitable supply of food; the only indication added by reason of the alcohol-habit is, extra care of the heart.

The second indication is, in some cases of delirium tremens (not many), where small doses are advised, large ones being always deleterious. Here again the experience of those who have treated many cases, in hospitals, is against this plea. Every drop of alcohol taken by the delirium-tremens patient militates against his chances for recovery. We have passed many phases in the treatment of this malady, beginning with the sedatives and narcotics and ending with the eliminants. This condition is a pure toxemia, and it is successfully treated with emetine, purges, pilocarpine, and by very carefully sustaining the vitality—and especially the

heart. Capsicum gave better results than narcotics; coca was an advance; but the modern method, by elimination, leaves nothing to be desired as to results, especially when the right eliminant is selected.

The third indication is, when alcohol is being withdrawn from habitués with arteriosclerosis, degeneration of the heart-muscle, kidneys, perhaps of the central nervous system; when the alcohol should be withdrawn gradually. This can scarcely be called an indication for alcohol, and there may well be a psychic need for the procedure, as the patient may not be willing to stop suddenly. Moreover, we are not indisposed to acknowledge the influence of habit, and the possible peril in abruptly stopping even a bad habit in persons well past the age of growth. But the evil is often due to the fact that the semblance of robust health may have been imparted by the alcohol, while its withdrawal leaves the patient as he really is; seemingly worse, although he may be truly in better condition. "He was a mere shell of a man" we often hear when such a one falls under some trifling malady.

Fourth: Severe cases of diabetes mellitus; "Diabetics apparently are able to burn up large quantities of alcohol, not only without detriment, but with great benefit. . . . During the oatmeal-days, alcohol can be used in large quantities, with good effect."

This point should be left, for discussion, to the specialists in diabetes. In his own practice, the present writer has not found need for alcohol in such instances, although he can see how these self-indulgent people may more readily submit to the occasional "oatmeal-" or "potato-" or "greens-"days if these viands are plentifully seasoned with booze.

These are the only indications given by the author referred to at the outset; but he adds: "In the whole range of infectious fevers, alcohol was thought to be a necessity; but professional opinion has changed. It is not to be employed as a heart stimulant, but may be justifiably used as a narcotic in certain cases." We are scarcely so poor in narcotics that we must take this doubtful and dangerous agent, alcohol, for such use. The profession has hardly begun to realize here the value of the mild nonopiate members of this group. Many a time a dose of passiflora will answer the need perfectly. To those who know gelseminine and cicutine hydrobromides, neither alcohol nor opium-derivatives are a necessity here.

The contraindications for alcohol, as enumerated in the article in question, are interesting. Here they are:

(1) As an appetizer, (2) as a food, (3) tuberculosis, in all stages, (4) nervous diseases, (5) exposure to heat and cold, (6) snakebite and other acute poisoning, (7) normal health.

It will be seen that in at least three of these—the third, fifth, and sixth—alcohol was, until recently, employed, and they formed strongholds to which the alcohol-advocate retreated when beaten out of all other positions.

The whole article shows how very little the pleader for alcohol can find to claim in its favor; and when the objections are marshalled against it, in these few possibly useful applications, there is only one real reason left for using alcohol—and that is—that the user wants it.

Loyalty is a force that holds a man to his job even in moments when he hates it. . . . It bids us be prompt at the office, to answer all letters at once, to look as brisk and interested as we can, till the mood passes and the familiar objects and occupations resume their halos.—R. C. Cabot.

#### INDIANA AND THE DISPENSING DOCTOR

From a number of our subscribers in Indiana we have received requests for information concerning the exact meaning of the Indiana state narcotic law. It seems that alleged representatives of the Indiana State Board of Pharmacy are calling upon physicians of the state and advising them that, according to the wording of the law approved on March 6, 1913, it is unlawful for them to *dispense* any narcotic drugs whatever. This interpretation is said to be based upon a paragraph in the law that reads as follows, emphasis being placed upon the distinction between "administer" and "dispense":

"That nothing in this act shall be construed to prevent the legitimate administering of said [narcotic] drugs, their salts, compounds, and derivatives, by a duly registered practicing physician, duly licensed veterinarian, or duly licensed dentist."

We recall distinctly when this act became a law. At that time, it was explained, and was so understood and accepted by the medical profession of Indiana, that the word "administering," as here used, was intended to convey the meaning of giving—dispensing—drugs to their patients. But now another construction is being placed upon the meaning of this word, this construction no doubt

following upon the interpretation of the meaning of the word "administer" given by the Federal Commissioner of Internal Revenue in one of his recent regulations.

We do not live in Indiana—and just now we are glad of it. But, if we did, we are inclined to believe that we would join with other physicians to give this interpretation of the law a very merry fight. If the word "administer" was purposefully introduced, with the distinct object of putting restrictions upon the medical profession of Indiana, then, surely, the physicians of that state have a bone to pick with its pharmacists; and we are convinced that, if any movement or propaganda for the literal interpretation of this absurd section is undertaken, the doctors of the old Hoosier state will rise up in their wrath and give the druggists a fight they will long remember. Indeed, we are advised that the medical societies in Indiana are not inactive and not asleep; that they are fully cognizant of the situation, and preparing to do battle, if that becomes necessary.

If it is the purpose of the pharmacists of Indiana to interfere with the practice of medicine in their state, it is our opinion—and not an humble one, either—that somebody has taken hold of a boomerang. In the long run, any effort on the part of any profession to legislate for another profession—be it that of law or medicine or theology—is going to get somebody into trouble.

And, so, all good friends of pharmacy, whether resident in Indiana or anywhere else, will join with us, we are sure, in the opinion that the leaders of the Indiana pharmaceutical profession, who are said to be back of this movement, must have been improperly quoted. We certainly do hope so, for nothing could be more unfortunate than to revive the old animosities between doctor and druggist. We had sincerely hoped that these were disappearing. We still entertain the hope that this is so.

Let us all bear in mind that the only way to increase the feeling of friendship between the two professions is for each side to give and each to take; each to be fair and just, each to be thoughtful of the interests of the other, each considerate of the circumstances under which the other man earns his bread.

However, if there is to be a fight in Indiana, we are with our good friends, the Indiana doctors. Forewarned is to be forearmed. The situation should be probed right now and a clear, definite understanding reached.

The physicians of Indiana, as well as of every other section of the country, want

to know exactly where they stand in this matter. We hope somebody will inform us of the exact status—tell us just how matters stand, plainly, succinctly, truthfully.

The pages of CLINICAL MEDICINE are open to any Indiana doctor who has positive information about this matter. Then, if there must be a fight, we are ready.

There is an idea abroad among moral people that they should make their neighbors good. One person I have to make good—myself. But my duty to my neighbor is much more nearly expressed by saying that I have to make him happy, if I may.—Robert Louis Stevenson.

#### CHRONIC INTESTINAL STASIS: ETIOLOGY AND TREATMENT

Lane's discovery of the intestinal kink was received with notable enthusiasm. The surgeons had about exhausted the possibilities of appendicitis, ptosis, and decapsulation, and these seemed about ready to follow oophorectomy into the oblivion that comes swiftly when novelty fades. Lane opened up a new field for the men of the knife, and they were duly grateful. The opposition is forming, however; and this comes, not from the despoiled internists, but from the laboratory. The latest presentation from this side is the paper, in *The New York Medical Journal*, by Dr. Anthony Bassler.

After careful study of this article, we are inclined to think that the writer is of the type of men who are somewhat difficult to convince and present stumbling-blocks in the path of the enthusiast who takes all movement for progress and change for betterment.

Moreover, the laboratory is growing exacting, complicated, and tedious; and in direct ratio less willing to give that plain and decided opinion for which we of the bedside clinical persuasion have so longed. How we have yearned for something like positiveness to replace our ancient guessing; and how hopefully we have looked to the laboratory for that boon. But just see what Bassler demands as bases, so as to enable him to make an inductive—although, he hastes to add, not conclusive—picture of chronic intestinal stasis, to-wit:

1. Attacks of abdominal distress, generally epigastric or right ileac, not associated with food taking.

2. Local tenderness in the right ileum and the hepatic flexure.

3. Constipation, perhaps preceded by abdominal pain or alternated with diarrhea and mucous discharges.

4. Sense of gas distention in right abdomen, perhaps causing palpable cecum, with splashing there.

5. Symptoms of intestinal intoxication; malaise, lack of energy and endurance, headache, backache, anorexia, sallowness, muddy complexion, rings about eyes; armpits, groins and popliteals stained; malodorous breath, neurasthenic symptoms, abdominal and general; loss of weight or standstill, notwithstanding appropriate dieting.

6. Functional eye symptoms, disturbed reflexes, neurotic insomnia, heart-rate slow or fast, causeless urethral distress, coccygodynia; subjective pains in left hip, flank, and subscapular region.

7. Prolonged stoppage of bismuth at certain points in the intestinal canal—often fallacious, if taken alone.

8. Careful examination of stools and urine, under innumerable precautions, with showings taking half a column to describe. Determination of these latter data Bassler considers the most valuable method of diagnosing the condition under discussion; namely, chronic intestinal stasis.

All of which goes to show why medical practice can never be reduced to a mathematic basis; for, who is going to all this trouble and expense to determine whether a man needs a dose of salts? Medicine will always be a matter largely of swift intuition, pre-knowledge, guesswork if you will, with psychiatry back of most of the therapeutics.

Follows an exhaustive review of Lane's and Kellogg's theories, in which the very slender evidence in their favor is demonstrated and the unsatisfactory results of the operations are revealed. The lack of correspondence between the symptoms and the asserted lesions, the return of symptoms after the removal of the assumed cause, and especially the neglect of these observers to begin their investigations by taking normal subjects, are given in direct, logical, unanswerable terms.

The conclusion: "To me, intestinal stasis is a medical matter almost entirely. Surgical procedures for conditions that ensue as results or complications may be necessary in individual cases, but never the major surgical procedures of Lane for nonobstructive stasis or toxemia, his form of operation for disease in tissues remote from the abdomen, partial types of resections or anastomoses, being performed in the absence of marked disease or obstruction. From long neglect, many of these cases have local conditions requiring surgery, but there should be only such surgical procedures as have been known



for years, procedures necessary to remove badly diseased areas, not those of glorified abdominal plumbing in which the mortality is high, the results more liable to be transitory, negative or bad, rather than good, in which moral effect, medical treatments, and others deserve the credit rather than the enthusiasm of the surgeon or the form of operation done."

Finally:

"To substantiate the importance of the bacterial-food origins, we should begin the study of stasis by examining the stools of children and young adults. It is not only in the acute diarrheal disturbances of young children that this subject is important, but even more so in bacteriological changes afterward, causing the chronic infections. There is a normal bacteriological status in the intestinal canal of human beings, and it is surprising how uniform this is in a large number. Every case of intestinal toxemia shows this to be away from normal, and in practically every adult case the infection had existed for years—mostly from childhood.

"If we are right in our etiological and diagnostic beliefs, that diphtheria-bacilli in a sore throat mean diphtheria, typhoid-bacilli in stools and general system mean typhoid, pneumococcus in sputum means pneumonia, and tubercle-bacilli mean tuberculosis, and so on through the most valuable advances in medicine in all stages of its career since its beginning, then it is biologically important, on etiological, diagnostic, and therapeutic lines, that the intestinal infections must so be considered. My researches in the pathogenic types show this to be true, the organisms found being in the colon, the pseudodysenteric and true dysenteric forms, the aerogenes capsulatus, streptococcus faecalis, alpha and beta types of paratyphosis, the so-called "slimy bacillus," the proteus, alcaligenes, pyocyanus, butyricus, entericus, macerans, putrificus, subtilis, paratyphoid, and others that may be important in individual cases.

"It is upon the presence and activity of these organisms that the true cause of intestinal stasis is based, and the time must come when this fact will be generally recognized, even though this kind of work is difficult of quick understanding and application both in diagnosis and treatment."

#### WATCH THE LEGISLATURES

The situation in Indiana, referred to in a preceding editorial, should serve as a warning to physicians living in other states

where similar legislation is likely to be enacted. For several years back we have been advising our readers to watch the legislatures. We repeat that warning now.

Fortunately, only ten legislatures will be in session this winter. We learn from *The Medical World*, which has been doing valiant work for the doctor—work which every physician should appreciate at its full splendid value—that the legislatures of the following states will meet this year: Kentucky, Mississippi, Maryland, Virginia, New Jersey, New York, Rhode Island, South Carolina, Massachusetts, and Louisiana.

We advise every physician living in any one of these states to write his state senator and representative to send him copies of every bill introduced affecting, or likely to affect, the interests of the medical profession. These bills should be studied carefully, and if they are found dangerous or subversive of the rights of our profession, they should be fought with earnestness and vigor through the county and state medical organizations.

#### WHY I AM MAKING GOOD

I believe in my work.

I have prepared myself carefully for it, and am improving myself, every day, by study and observation.

I take several medical journals, read the new books, attend the medical meetings, and keep a careful record of my cases.

I try to be thorough, approaching every case as if it were a mathematical problem which can be solved only when I know the value of  $x$  and  $y$ .

I take no thing and no man merely "for granted"; "search farther" is my motto—and I am looking in out-of-the-way places and books constantly for things that will help me to help my people.

I do not sulk, knock, welch or complain, but keep pleasant, keep smiling, trying to be, as well as seem to be, a friend to every man, woman, and child in my town.

I am neat in my personal appearance. My nails are never "in mourning," my teeth are always white, my hands always clean, and my clothing scrupulously neat.

I am ambitious. I am determined to do better work next year than this year, and to have a better and more lucrative practice sometime—perhaps in a better town.

I am square, and my people know it—but my life advertises this fact, not my words.

I am modest, but honestly anxious to know people and to have them know me,

and for that reason I am called "a good mixer." I have found that it pays to be friendly with folk, to get acquainted with them, not only because it brings me business, but also because it warms my heart and makes me a happier man.

Now you know why I am making good.

What a place to be in is an old library! It seems as though all the souls of all the writers that have bequeathed their labors to these Bodleians were reposing here as in some dormitory, or middle state. I seem to inhale learning, walking amid their foliage; and the odor of their old moth-scented coverings is fragrant as the first bloom of those scintillant apples which grew amid the happy orchard.—Charles Lamb.

#### VARIOUS VEGETABLE FEVER-REMEDIES COMPARED

In his new work, "American Therapeutics," just off the press, Ellingwood gives an excellent comparison of the applications of five fever-remedies, and this information is so interesting as to deserve of reproduction here, in substance, as follows:

**Aconite.**—Indicated at the onset of fevers, during sthenic fevers, and in small doses during protracted asthenic fevers; emphatically the child sedative, applicable in midlife, less prompt in age; in all acute fevers and inflammations, with rise of temperature; heart strong and rapid, pulse quick, sharp, hard, in asthenia soft, small, feeble, but regular, very small doses; fever always present in acute—heart and pulse must guide in chronic; skin hot and dry, capillary circulation actively engorged, eyes bright; mouth dry and parched, tongue pale, soft, white coat, moist or dry and harsh, with brown stripe; secretions may be abruptly suppressed; general distress and headache, local pain at seat of inflammation.

**Gelsemium.**—Sthenic cases, with nervous irritation, spasm threatening, or acute cerebral engorgement, neuralgic pains; excellent in infancy, full doses for strong adults, less frequently for aged; acute forms of cerebral engorgement, nervous irritation and excitability; heart strong, irritable, violent action, increased muscular power, exalted nerve force in heart disease, never in feeble heart; fever usual, of nervous type; skin dry and hot usually, face flushed, bright red, eyes bright, pupils contracted; red tongue, dry or moist, in protracted nerve irritation dry and dark red; secretions usually suppressed; severe headache, with extreme restlessness, local pain of nervous origin, and acute neuralgias.

**Veratrum.**—Only in sthenic cases and in convulsions, or threatened convulsions with rapid heart action; for strong adults and women at childbirth, hard to adapt to infants, seldom for aged; threatened head engorgements or convulsions; heart strong and rapid, pulse full, large, hard, or small, hard and very fast, never in feeble heart; fever usual, heart-action rather than temperature the guide; skin may be cool, bright red or dull red; tongue dry, red stripe in middle; skin and kidneys usually free in action, except in uremia; pain dependent on cause, may be local, may be bursting headache as in puerperal convulsions.

**Bryonia.**—Applicable in either sthenia or asthenia; any age, weak or strong, infants and aged; serous or synovial inflammations, or of organs covered by serosa, as pulmonary and intestinal structures; heart may be weak or strong, pulse quick; is not heart depressant in medicinal doses; fever present; skin usually hot, moist or dry; red spot on one or both cheeks; tongue dry, usually coated, membranes dark; secretions usually deficient; quick shooting, darting pains; local soreness, tenderness on pressure; general muscular aching.

**Rhus Tox.**—In sthenia or more frequently asthenia; all ages by adjustment of doses and study of indications; local inflammations, involving skin, with redness, circumscribed tenderness, heat or pain; typhoid conditions or low protracted fevers; quick pulse, rapid, usually soft, feeble, compressible, or may be hard or wiry; fever present; skin usually very hot, especially in circumscribed area, which is bright-red; membranes dark, tongue dark, pointed, red tip and edges, elongated papillæ; secretions usually suppressed; pain in inflamed area, general muscular aching.

We have learned to associate these vasorelaxants with all conditions showing vascular, tension, or any tendency to vasospasm; hence, with fevers and neuralgias, where they are distinctly anodyne. Very often the nervous tension that prevents sleep will give way to a few doses of aconitine, and refreshing slumber will follow without resort to any hypnotic, much less to the perils of opiates. We have yet to meet the doctor who has become familiar with aconitine and looks on it as an unsafe remedy, even for infants. Given in the minute doses every quarter to half hour until effect, it is the ideal of a safe and manageable febrifuge.

Gelseminine is a remedy that grows on one the more it is used. We have largely dis-

continued the use of morphine since learning how frequently this relaxant substitutes it, with better effect, since it never checks the secretions. It is distinctly anodyne apart from its vasorelaxation, with selective sedation in the pains of the genitourinary tract.

Veratrine is a reliance in sthenic inflammations, and whenever fevers are associated with defective elimination. We look on it as of great value in such toxemias as eclampsia and uremia; and we like its action in arteriosclerosis with high vascular tension. When we hear a doctor talk of its "dangerous" character, we feel the same pitying compassion as when the old darky asserted that "the sun do move." Yes, rather a sense of indignation that a man who should, and could, so easily learn the truth, should not take the trouble to do so. All one need remember is, to give veratrine in small frequent doses, and stop when there is a sense of warmth in the stomach. Is that so hard?

Bryonin is chiefly given for pleurisy and dropsies, as a diuretic. Its place is less firmly established, but many of our readers are well able to discuss its merits.

Rhus has long been a favorite and has been employed in rheumatism, especially when the muscles were involved, in erysipelas, low typhoid states, and the exanthemata with hyperacute involvement of the skin. It is an odd remedy, and does not seem to affect all persons alike.

This group of five remedies would make an excellent subject for clinical investigation. Suppose some of our readers put Ellingwood's indications to a fair and impartial test, neither seeking to support or contradict him, but simply to ascertain the truth—and let us know the results.

#### THE TREATMENT OF FLATULENCE

We find a discussion of the treatment of flatulence in the September 4 number of *The New York Medical Journal* (p. 518), the contributors being Newman, Casale, Eichhorn, Sutton, and Martin.

In *gastric flatulence*, Newman says, hypodermic injections of 1-10 grain apomorphine usually will give instant relief—by emptying the stomach, of course. He finds Hoffmann's anodyne, given in dram-doses every fifteen minutes, the best carminative. Spirit of camphor also is useful. In such cases of gastric atony, Casale restricts the diet to milk, to be given every two hours, and kept

up for a week or more, until the symptoms disappear. No fluid should be taken with meals. To combat fermentation, when there is insufficient acid, he gives dilute hydrochloric acid, 20 minims in half a glass of water, to be sipped through a straw during the meal. If there is heartburn, sodium bicarbonate or calcined magnesia is advised.

This writer's experience is, that relief ordinarily is secured by means of intestinal antiseptics (the sulphocarbolates), with some carminative, such as menthol. When there is gastric atony, capsicum and nux vomica are very effective.

In *intestinal flatulence*, Newman finds camphor, asafoetida, and pancreatin beneficial, while, he declares, in the flatulent colic of old persons and others, capsicum is the remedy. This not only acts as a carminative, but will prevent the development of gas. To remove the gas from the bowel, he orders an enema of castor-oil and sodium bicarbonate, and hot applications to the abdomen.

This writer's experience is that the addition of a few drops of oil of turpentine to the enema will make it more efficient. Of course, the entire upper intestinal canal should be cleaned out with calomel and a saline laxative.

In cases of *intestinal atony*, the very best remedy is physostigmine, which may be given hypodermically in cases of emergency. This is the remedy above all others for the flatulence caused by paresis of the bowels (paralytic ileus) following abdominal operations.

Flatulence is often, in fact, usually, associated with chronic *intestinal stasis*. The use of mineral oil, possibly administered in the form of a palatable emulsion and, given over a prolonged period, will relieve all cases not requiring surgical intervention.

In treating the *putrefactive forms* of flatulence, adds Martin, it is desirable to give, besides the other drugs, the Bulgarian lactic-acid bacillus, which is now available in dependable tablet form.

Another remedy that is excellent in intestinal flatulence, as also in gastric disorders, at all ages, marked by hyperacidity, is the so-called neutral cordial of the Eclectics.

Colic in children generally will yield to a warm enema, and a course of treatment with a mineral-oil laxative. Some good carminative may be used for the relief of pressing symptoms.

Isn't this topic of sufficient interest to deserve comment by the readers of *CLINICAL MEDICINE*? We are sure that many of our busy readers can find time for "just a line".

# Leading Articles

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## The Present Pandemic Simulating Influenza

### Its Etiology and Treatment

By J. FAVIL BIEHN, M. D., Chicago, Illinois

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SOME months ago, in various parts of the country, especially in the large centers of population, there set in an epidemic of an acute infection of the respiratory passages, clinically very similar to influenza—popularly referred to as grip. The disease is, unquestionably, contagious and air-borne; having none of the characteristics, now so well recognized, of a milk-borne infection.

The infectiousness of this disease is particularly great, usually the majority of individuals of a household, office or other establishment being attacked. So far as I am able to ascertain by personal observation, in several school-rooms, the number of those attacked in these groups ranged between 38 and 82 percent. Those suffering from chronic catarrhal conditions, especially chronic infections of the antrums, are first attacked, the more or less normal individuals not so affected usually contracting the disease somewhat later.

The incubation period in several instances that came to my notice was between twenty-four and forty-eight hours. No age is immune, while both sexes seem to be equally subjected to attack.

#### Review of Bacteriologic Findings

As to the etiology of this disease, it has not as yet been definitely settled what bacteria are involved. Still, most bacteriologists are agreed that, primarily, it seems to be a streptococcus-pyogenes and pneumococcus infection, these organisms—and practically no others—being constantly present during the acute stages; the influenza-bacillus being but very rarely found early in the attack, and even when it is found it is not present in sufficient numbers to be considered the causative element of the infection. Indeed, influenza-bacilli are not being encountered

with any greater frequency than they have been found in normal as well as diseased respiratory mucous membranes during the past four years. Unquestionably, therefore, the present disease is not influenza.

Many cases beginning as an acute rhinitis show, especially during the first few days, the anaerobic bacillus rhinitis of Tunnickliffe. This organism, however, tends to disappear by the fourth day, at which time the streptococcus pyogenes and the pneumococcus are the predominating bacteria.

So far as I have been able to determine by careful culture-methods, the streptococcus viridans is present in about 18 percent of the cases. As the disease progresses, various other bacteria appear, the staphylococcus albus, and occasionally staphylococcus aureus, usually beginning to be seen on about the fourth day of the attack. The micrococcus catarrhalis is but infrequently present. However, in all cases in which the upper bronchi are affected, I have found the micrococcus pharyngis siccus. This latter organism produces a circular, firmly adhering, dry, crinkly colony, while the micrococcus catarrhalis is more frequently found on the tonsils, especially in individuals who have been afflicted with chronic tonsillitis.

Staphylococci and the streptococcus viridans seem to be the predominating organisms in the nasal cavity during the later stages. Throat cultures universally show some member of the bacillus-Friedlander group, especially during the latter stages of the disease. While these organisms are not seen in the smears and are rarely found in the cultures after a 24-hour incubation at 37° C., they, nevertheless, are the predominating organisms in these cultures when they are allowed to remain at room-temperature for four or five days. I have rarely encountered fusiform

bacilli and spirilla in typical cases of this epidemic disease.

#### Some Clinical Features Observed

In this epidemic, the patients present many of the characteristic symptoms that we are inclined to consider as typical of grip. However, certain especially noteworthy manifestations have been observed among which I may name nasal hemorrhage (which I have found to occur rather frequently), and an intense conjunctival hyperemia very similar to the so-called conjunctival influenza (popularly known as pinkeye). There also frequently is a marked edema of the forehead, especially over the frontal sinus. This is a characteristic I have not observed in any previous epidemic.

The tendency to occlusion of the sinus—frontal, ethmoidal, sphenoidal—with resultant pressure-headaches or neuralgias, is another peculiarity, while especially frequent have been eustachian-tube closures, resulting in earache. Complications such as tonsillitis are less common than in preceding epidemics, the inflammation in the throat usually being peritonsillar and perilaryngeal. In very few cases, apparently, there occurred mastoiditis, brain abscess or severe purulent inflammations of the sinus. In such cases in which mastoiditis does develop, usually a hemorrhagic, not purulent, exudate forms; this indicating that the condition is due to a streptococcus, the virulence of which is such that it tends to produce a spreading, erysipeloid, nonpurulent inflammation. Cardiac and articular involvement and complications have, so far in my experience, been very rare. There is, however, a marked increase in acute lobar pneumonias, due principally to the type II pneumococcus and the pneumococcus mucosus.

#### Action of the Bacterins

I have used bacterins in the treatment of 146 cases during this epidemic, and the results in many of them were nothing short of marvelous. Practically all of the patients—amounting to some 63 percent—who were seen during the first twenty-four hours and who received a single dose of 1-2 Cc. of pneumococcus-combined bacterin, each Cc. of which contained 50,000,000 each of pneumococcus type I and type II, and pneumococcus mucosus; 100,000,000 of streptococcus pyogenes; 50,000,000 of streptococcus viridans; and 100,000,000 each of staphylococcus albus and aureus (making a total of 500,000,000 killed bacteria), showed marked

relief within three days; while the cure was completed in three or four days after a second injection of 1 Cc., usually given on the third or fourth day after the initial one.

A few patients seen during the later stages, that is, after the fourth day of the attack, did not respond as readily. Not one, however, unless there were surgical complications, required more than four injections, given at three- or four-day intervals.

To the average practitioner, the dose just mentioned would seem to be very massive, especially as we have taught that bacterins are not to be given in acute infections. However, I have yet to see a case of anaphylaxis or any other really dangerous condition to develop as the result of a subcutaneous injection of bacterins. A personal experience, in which I took an enormous dose, may be worth recording here.

#### A Personal Experience

Notwithstanding the fact that I had immunized some eighty children, of whom only four contracted the disease, I did not immunize myself, and as a result acquired the disease, a slight chill occurring on the evening of Tuesday, December 14. However, I decided to let the disease go on, in order to be in position to make a careful bacteriologic examination.

On Wednesday, December 15, I took 1-2 Cc. of pneumococcus-combined bacterins, a total of 250,000,000 killed bacteria. There was little or no general reaction, so far as I was aware. Having taken a dose at 6:00 o'clock p. m., the reaction began at 12:00 p. m. There was some slight local reaction (redness, etc.), visible for thirty-six hours. Four days later, Sunday evening, December 19, I took 1 Cc., 500,000,000 killed bacteria. Again, practically no general reaction.

On Friday morning, December 24, five days after the second injection, at 7:30 a. m., I injected into the abdominal region 1-2 Cc. of a concentrated stock pneumococcus-combined bacterin (approximately 26,000,000-000 killed organisms) and went about my work in the laboratory as usual. A slight headache (frontal) set in at about 1:00 p. m., which from then on became somewhat more severe, although at no time was it unbearable. There was observed a feeling of malaise at 2:00 p. m., and also some local reaction (swelling, tenderness, hyperemia), which gradually increased during the next eight hours. There was some prostration, most marked about 3:30 p. m., at which time standing was somewhat difficult, although I remained



at the laboratory working at my desk from then until 5 o'clock, when I went home unassisted.

Coming home, I found that I had very little appetite, but nevertheless ate a fair meal. Upon lying down, however, there came on some dyspnea, and I experienced alternating flashes of heat and cold, while, also, a moderate but not profuse perspiration set in. By 11:30 o'clock, some improvement had occurred, so much so, in fact, that I was able to assist in trimming the Christmas tree. At 1:00 a. m., I finally went to bed for the night, but was unable to sleep, this insomnia persisting until some time between 5 and 6 o'clock in the morning.

It was not until this time that a completely recumbent position was comfortable. Then followed eight hours of restful sleep, after which I arose, and after a hot bath seemed much refreshed, although I felt tired the entire day—Saturday, December 25. However, the entire reaction had passed off by next day (Sunday) to such an extent that I went out in the evening, apparently having suffered no untoward effects.

All symptoms of the infection had disappeared by Monday morning, and I went, as usual, to the laboratory. A hard day's work in the laboratory on Monday, however, being on my feet most of the time, and the edge of a laboratory-table coming in contact with the site of inoculation, resulted in another local reaction, almost as severe as the original one, but it was accompanied by only slight evidences of a general reaction.

At no time did I experience a chill, although the temperature dropped 1.8 degrees eight hours after the injection and rose 0.6 degree fourteen hours after the injection; while twenty-four hours after the injection it again was normal.

From the eighth to the tenth hour after the injection, there occurred a profuse nasal discharge of a thin, serosanguinous character, and considerable mucus was raised, as a result of constant coughing, due to bronchial irritation, a part of the symptom complex of the reaction—the sputum at first being tenacious, transparent, and colorless, except for the admixture of some dust particles from the respiratory mucous membrane; later, it became much more fluid and of a yellowish-green tinge.

Although I have given doses of staphylococci as high as 10,000,000,000, this is the largest dose of bacterins I have ever given, and I have yet to see a distinct chill follow the subcutaneous injection of bacterins, al-

though I have seen it occur as the result of an intravenous injection. This, in my case, also, was the severest reaction I have ever witnessed, and I do not think that, because it was personal, I am biased.

#### Concomitant Treatment

I do not wish it to be understood that the bacterins were the only treatment these patients received. In each case, a cathartic, preferably castor-oil, was given; a light, though substantial, diet, including milk or buttermilk, was ordered; locally, iodine in some form, usually calx iodata, in combination with small doses of iodide of potassium.

If the headache was severe and there was little or no general reaction, 5 grains of acetanilid practically always controlled it. For the muscular soreness so characteristic of most of these cases, I prescribed macrotoid, bryonin, and rhusoid, one granule of each, every two hours until relief, although some of the patients seemed to do better on quinine, of which I gave the bisulphate, 10 grains morning and night. Acetanilid usually controlled the earache, but this was always supplemented by local treatment; adrenalin and a mild alkaline antiseptic containing menthol as a spray or, preferably, a douche, and given as warm as the patient could comfortably bear. Nasal hemorrhage always yielded to emetine hydrochloride hypodermically, and in no case was there recurrence following its use.

The patient, if possible, had to spend twenty-four or forty-eight hours in bed, in a room not over 70 degrees temperature, and in which the humidity was maintained as near the saturation-point as possible; the excessive moisture tending to liquefy secretion and allay the irritation of the respiratory mucous membranes. As many patients as possible received iron citrate, hypodermically, during convalescence, a dose being given every other day for four doses. This I believe is good practice, owing to the fact that we have infection caused by an hemolytic organ.

In no case have I seen an acute nephritis, although the urine was always carefully examined. Only two patients developed a cystitis, caused by streptococci and colon-bacilli; but this rarely lasted more than forty-eight hours. No specific treatment was given for this, aside from the large quantities of water and citrous fruits, which were ordered for all as a routine measure.

Those patients who took the hot nasal douches or inhaled the steam from a boiling

kettle in which either menthol or benzoin had been placed with the water, apparently derived the greatest amount of benefit therefrom.

Practically every patient who did not present some chronic infection of the antrums recovered completely within ten days; over 60 percent of them in five days. All those showing abnormalities of the turbinates or septum or any other anatomical lesion of the respiratory passages were immediately referred to a nose-and-throat specialist. It is a waste of time and energy to attempt to produce a permanent and lasting cure in such individuals without correcting their anatomical deformities.

In no case have I deemed it necessary to employ autogenous bacterins, as they are generally defined; however, if some other organism, such as the micrococcus pharyngis siccus or micrococcus catarrhalis or a non-

hemolytic streptococcus was found to be present in the cultures, either an autogenous made from this particular organism or a corresponding stock bacterin was added to the pneumococcus-combined bacterin.

A parallel series of cases, 12 in number, for which autogenous bacterins were prepared in each instance, did not recover any more rapidly in the hands of any of my confreres than did my patients under stock bacterins. Of course, it must be remembered that the cultures from which the pneumococcus-combined stock bacterin was prepared were, many of them, isolated from patients in this epidemic.

Children under ten years of age received one-half the adult dose. As a prophylactic I gave 250,000,000; four days later, 500,000,000; and five days later, 1,000,000,000 Pneumococcus combined.

## Chronic Articular Rheumatism and Rheumatoid Arthritis

Their Causes and Treatment

By BEVERLEY ROBINSON, M. D., New York City

**I**N THE fifth volume of Osler and McCrae's "Modern Medicine" (1915), in the article on arthritis deformans, it is stated by Doctor McCrae, who wrote it, that "chronic rheumatism" is a misnomer; that this term should be abandoned and the designation "chronic arthritis" be substituted for it—in this way assigning no definite cause for that diseased condition of the joints, but simply stating the fact.

It is denied by that author, so far as his observation goes, that chronic rheumatism ever follows an acute attack of rheumatism (p. 897). Further, the identity of this affection is much questioned. As a term, it is misleading, and the word "rheumatism," if used at all, is only acceptable for rheumatic fever.

With this opinion of McCrae I am not in complete accord. I acknowledge freely that many joint conditions, chronic in character, have an origin entirely different from that of rheumatism. In some instances, the diagnosis is soon accurately made and the cause of the arthritis shown. In some others, however, and especially among older persons, we should still assign rheumatism as the cause of the joint disease. We may not be able precisely to determine what the efficient, primary cause has been in the individual case, but we

should not give up the name entirely for cases in which the symptoms are distinctly marked, even though the infection, if infection it be, has not as yet been absolutely determined.

Of course, if we had a thoroughly reliable touchstone in treatment, we might be greatly helped; but we have not. The nearest approximation to this, in my opinion, is, medication with salicin, in large and frequent doses. When this remedy is manifestly useful in relieving pain and in helping partly the local disablement, I incline strongly to the belief that the condition is rheumatic in nature. When, on the contrary, salicin, properly given, affords no relief, even temporary, I consider its rheumatic nature very doubtful; and usually the direct cause of the disease will be established later.

It is evident how important it becomes to treat all these rheumatic cases very early when the joints are implicated in an insidious way, as they often are. If we permit the poison—whatever it be—to get a hold in the system before it's being effectively combated, we must make up our minds that we shall not be able to obtain any thoroughly curative effect. For, already the tissues about the joints have become thickened, contracted or atrophied, and time alone, with persistence

in the use of remedial agents, especially local ones, and suitable surroundings for the general health, can bring about desirable results; that is to say, a measure of comfort and improvement. Complete cure may result in a few instances even then, if the case be taken hold of vigorously and managed carefully and fully. If it has been allowed to progress without such treatment, however, we may not hope for more than amelioration, at best.

#### Principles of Medical Management

As regards the medical management of chronic arthritis of the varieties now being considered, endeavor should first be made to get rid of the focus of infection so far as may be. Then we should devote ourselves to the general management of the case and also to lessen the local pain or disablement of the joints affected.

Rest, in due amount, should always be carefully considered; and whenever there is an acute exacerbation locally, as evidenced by increased pain or stiffness, and, perhaps, general malaise and some rise of temperature, it should be firmly insisted upon for one day or longer. The bed is the place for these patients, at least for a while.

A little later, massage and passive, or possibly active, movements should be associated with the complete rest in bed. Then, a little walking, with or without support of an individual or crutches or a cane, should be attempted, and the length and duration of the walk progressively increased from day to day. The amount of active movements, either with or without massage, when in bed, should depend upon the personal response or reaction of the patient. In a similar way, it should be our guide when the patient is up and around, more or less, during the day. If active movements in bed or walking around the room or out of doors notably increase pain and stiffness of the joints, and these persist rather than disappear in part after some hours of complete rest, then we should lessen the amount of these exercises for a few days.

The general nutrition should be carefully attended to, and the effort be made constantly to strengthen and improve it by every restorative measure.

Of course, an abundant supply of sunlight and fresh pure air is essential; while, above all, an air of optimism, according to Billings, should surround the patient at all times. Altogether too prone are they to become discouraged under the obstinacy of their ailment, hence, change from one medical

adviser to another is frequent, despite even the best of care and greatest tact on the part of their physician and the nurse.

Little by little, with unrelaxed efforts, improvement, generally and locally, will follow. But, on the other hand, if there is any letup of treatment in any particular, a painful relapse is liable to occur. These relapses are often very obstinate, and increasingly so.

#### Role of the Vaccines

Autogenous vaccines, made up from the tissues and exudates of the focus of infection, have been of value. Numerous observations by several competent and reliable observers prove it. However, the quantity employed should be moderate, at least in the beginning of this treatment, and until the special idiosyncrasy of the patient is ascertained. Otherwise, we are liable to have not a few unpleasant sequels—locally and generally. Moreover, in not a few instances, we find that we obtain quite as much success with a minimum dosage, eventually, as we do by introducing into the economy large or increasing doses.

Personally, I have but very limited faith in the curative effects of the stock vaccines; for, they impress me rather as a sort of hit-or-miss procedure, one not based upon what seems to be a rational conception of treatment. And, yet, there are now on record numerous instances, fortified by accurate reports from physicians who stand deservedly high in the profession, that point to very beneficial and enduring results at times, as obtained from the judicious and repeated use of these agents. Especially is this true of multiple vaccines containing a certain proportion of the derivative of the dead diplococcus microbe, to which Paine and Poynton have attributed such great importance in the causation of rheumatism.

Unfortunately, in many of these cases, other medical treatment has been employed at the same time, besides the vaccine, so that it is difficult to appreciate accurately to which of two agents we should ascribe the improvement in the patient's condition. On the other hand, according to the report of cases treated by Dr. A. A. Stafford,<sup>1</sup> this assertion does not apply; for, the good effects obtained by him were wholly due to the vaccine employed, since no other remedy was administered at the same time, except what was surely of no importance in the great amelioration of the patient effected in a very brief period.

<sup>1</sup>*Southern California Practitioner*, Sept. 1914, p. 290.

It must be added, however, that Doctor Stafford's cases were usually acute rheumatic ones. Also, it is worthy of remark that most authorities have had better results from vaccines when employed for quite a length of time in cases of chronic arthritis of the nature of chronic rheumatism or of rheumatoid arthritis than in acute forms.

Insistence should ever be made upon the great importance of the general good management of the patient. Also, we should get rid, if possible, of a present and continuously acting source of infection and poisoning of the whole system. Without attention to, and the remedial treatment of, such focus, the vaccines, it seems to me, would only in relatively few instances have any marked beneficial effects; while, surely, these would not endure. To believe otherwise, is opposed to rational views bearing upon the judicious treatment of the diseases under consideration.

The late experiments of Dr. David John Davis,<sup>1</sup> of Chicago, on rabbits, designed to show the effects of sodium salicylate in various types of arthritis, do not substantiate what we know, clinically, about its action in acute articular rheumatism. They do show, however, that, as we have believed for some time, in forms of arthritis other than the rheumatic, the salicylate has very little, if any, protective or remedial value.

#### Chronic Articular Rheumatism and Rheumatoid Arthritis

As for rheumatoid arthritis, particularly, R. Pemberton<sup>2</sup> insists upon the value of proper diet, gradually increased, and, little by little, being approximated to about the same as we eat when in perfect health.

Whenever the causal source of the disease is found, it should be removed, if possible. In many instances, however, it cannot be discovered, and then the general line of treatment must continue. Even then we may obtain excellent results. Doctor Pemberton does not consider the disease as due to "intestinal putrefaction," and believes that a moderate proteid diet is permissible; but neither that diet nor a diet of carbohydrates should be in excess.

In general, the treatment of chronic articular rheumatism and of rheumatoid arthritis does not differ essentially. The descriptions of them given by the authors so frequently merge into one another that we might readily take either one as our guide.

In the beginning of these two diseases,

it is quite impossible to separate them. They are both very insidious. The acute exacerbations repeat themselves quite frequently, with increased local pain and swelling—and perhaps a slight rise of temperature. The symptoms are not unlike, and rapid changes of temperature and exposure to cold and damp aggravate both diseases.

At a later stage, they frequently may be differentiated and with more or less certainty, depending upon the deformity of the joints affected and the greater disablement which usually results from rheumatoid arthritis.

We never have, as we know, the bony outgrowths—the Heberden's nodes—in chronic articular rheumatism. In the latter disease, we are more likely to have a valvular cardiac affection, which may be attributable to a previous acute rheumatic febrile attack, or it may have developed little by little and without any specific assignable cause being apparent. It is true that chronic articular rheumatism is seen more frequently in hospitals than it is in private practice. It is especially found among day-laborers, cooks, policemen, stokers, individuals whose daily work exposes them frequently to wet, rain, and draughts when overheated and when tired.

Rheumatoid arthritis, in its chronic, advanced form, is more frequently encountered among the well-to-do and those who are often people of very moderate habits. Indeed, it is a mistake to assume that it is in any way an evidence of high living or over-indulgence in rich food or wines. There is one exception which should be noted in regard to the causation of these diseases. Among women who have had several children, who have been burdened with household cares and those who suffer from uterine disturbances, rheumatoid arthritis may be found equally among the poor and the rich.

#### Rational Treatment

From the preceding observations, we should derive our best indications for rational treatment.

No form of dieting that is too careful or particular is, as a rule, advisable. No cutting off absolutely from all alcoholic stimulants is, I believe, desirable. The idea that chronic articular rheumatism or rheumatoid arthritis is improved by great abstemiousness in food or drink is not infrequently a great error in practice.

To be successful, such patients need building up in every way possible. This does not mean, of course, that their digestive processes

<sup>1</sup>*Archives of Internal Medicine*, April, 1915, p. 555.

<sup>2</sup>*Amer. Jour. Med. Sci.*, March, 1914.

should be overtaxed, nor does it mean that, when a patient has a distaste for any particular food or drink, this food or drink should be insisted upon because of some probably false theory that has been utilized to further wrong judgment. Personal idiosyncrasy must always be allowed for.

In addition, it should be noticed that people's constitutions change, in a measure, from year to year and without our being able to explain why it is so. I have known, for example, those who found sweets very grateful to the palate during months and years, almost suddenly and apparently with nothing to account for the change, to acquire a thorough distaste for them.

Today, we are all inclined to seek for some distinct focus in the throat, nose, mouth, ears, appendix, and so on, as the direct efficient cause of an outbreak or aggravation of chronic rheumatism or rheumatoid arthritis, and to this and to the getting rid of it effectively, if possible, I have already referred more than once.

#### As to Dyscrasias

On the other hand, however, we should recognize now, that there is such a thing as an arthritic diathesis, and it is clearly distinguishable in some individuals and in some families. When such a constitutional dyscrasia exists, a mere nothing—the slightest change in one's habits or surroundings, or a very moderate exposure to chill, dampness, rain—will bring on a relatively acute attack or, surely, increase for a time the local stiffness and disablement of the joints. All patients having chronic articular troubles of this sort are better off, as a rule, in a moderately warm, dry, inland location than they are when the contrary surrounding conditions prevail.

For this reason, individuals living in Boston, or in New York particularly, should remove in the late autumn or in winter and early spring to localities like the pine belts of South Carolina and Georgia. During summer, they are nowhere so well off as near sulphur springs, like Sharon or Richfield Springs, New York, or the White Sulphur Springs of West Virginia.

#### Local Treatments

In the way of local treatment, there is nothing that equals daily massage combined with passive and active movements. But, too much emphasis cannot be placed upon the importance of the proper selection of a skilled, judicious masseur or masseuse. Moreover, the massage and passive and active move-

ments should be practiced systematically, and daily at least for several days or weeks. Later, the intervals of this treatment may be lengthened. This is true particularly as soon as the patient is able to walk a short distance without aid.

If too much or too severe manipulation of the joints be employed, quite as great harm can be done, even in a brief period, as would result from prolonged inactivity; and, as a result, we have greater stiffness and disability of the joints.

The best masseurs very rarely use any emollient or stimulating application, but depend entirely upon the use of their bare hands. In some instances, however, I am quite confident that massage with a combined stimulating and soothing liniment, such as compound soap liniment or Stokes's liniment, has helped to allay pains and to increase the pliability of the joints. At present, I am inclined to vaunt highly the decided and satisfactory results obtained from the frequent use of mutton suet, slightly benzoated, to neutralize its unpleasant odor. It should be kept in mind always, in making use frequently of liniments which cause redness or local irritation, that we are thus deprived of the application of massage treatment for the while. This is the reason why I have given up, in chronic affections of the joints, the local use of oil of turpentine, oil of gaultheria, menthol, ammonia, and chloroform.

Occasionally employed, and especially if there be an acute attack and massage is not desirable on account of the increased pain occasioned by it (usually because of ignorance on the part of the manutherapist), stimulating liniments may relieve pain in the joints for a while. This is true simply when they are applied locally on lint or gauze and evaporation is prevented by, say, a covering of oilsilk or thin rubber tissue.

What applies to liniments may also be stated with regard to repeated local applications of tincture of iodine to the joints. It may soon, when applied frequently, cause considerable local irritation of the skin. Pursued excessively, or if a strong tincture is used, we may produce blistering. So may we get blistering from oil of turpentine, if evaporation is prevented by an impermeable covering.

Now and then blistering is desirable, particularly where massage treatment cannot be had. If this method of treatment be employed, we should, preferably, recur to the oldfashioned treatment of a succession of



small fly-blisters near and around the joint, not immediately over it. Sprinkling the blister-plaster with spirit of camphor before applying and allowing the alcohol to evaporate will prevent the cantharides from irritating the urinary organs.

The compound tincture of iodine and the iodine-ointment are now and then preferable to the simple tincture of iodine. They contain a proportionately smaller amount of iodine; and the iodide of potassium in the former, in considerable amount, and the lard in the latter, promote the resolvent effects. Moreover, they can be applied more frequently without causing undue irritation—the ointment with gentle rubbing. With the late Doctor Sayre, of New York—so famous as an orthopedic surgeon—iodine ointment was a favorite and often employed by him.

These facts, no doubt, are familiar knowledge to many. Nevertheless, as they are all-important for success in treatment, they should be insisted upon for inexperienced practitioners.

#### Special Treatments

Massage, as described, may often be associated, with very great advantage, with the use of one or other form of electricity. Whenever pain in the joints has been notably increased by massage or forced stretching of the ligaments or of muscles around or near the joints, this can be rapidly suppressed by the use of the faradic current.

In some instances, there is great benefit to be derived from the use of superheated dry air; but, unfortunately, outside of large cities it is very difficult to obtain proper facilities for its use. Moreover, even in a city, as in New York, where very excellent apparatus and skilled attendance can be had, it involves treatment outside of one's house. Of course, there may be a few rare exceptions, where an installation has been made in the home, but this can only be attained with much expense for apparatus and skilled treatment.

The radiant electrical-light and heat treatment has in its favor the relative ease, as compared with the ordinary treatment with superheated dry air, of its adoption wherever there may be found a sufficient electrical plant.

#### The Use of Radium

The last expression of science in these cases is, the employment of radium-therapy internally, by intravenous or intramuscular injection of solutions of radium. To what

degree, if any, such treatment can have any curative effect upon the primary cause of the disease is as yet unknown. The great influence of radioactive substances supposed to be existent in certain mineral-spring waters, and which seemingly would explain their beneficial local action, is even at present a matter which may be questioned. To the use of these waters in baths or taken internally, may also be attributed a marked beneficial effect upon the constituents of the blood or upon the functions of the blood-forming organs.

In all these cases, I have learned to have great faith in drugs, notably in the glycerophosphates or hypophosphites of lime and soda and in Blaud's pill mass in powder form. As an immense aid to nutrition in some of these instances, nothing equals or takes the place of good codliver-oil. It may be taken plain, mixed with malt extract, or combined with the hypophosphites, as best suits the individual. No amount of good cream or butter will supply its deficiency.

I do not believe much in the utility of iodide of potassium, given internally. It is very prone to upset the stomach, and its helpful effects, so far as the joints are concerned, are not evident, as a rule. If the iodides be given at all, I much prefer the syrup of hydriodic acid to any other form, on account of its effectiveness and assimilability.

In these and the foregoing statements, I have tried to formulate certain rules that are essential to success. When all these means have been tried with only very partial improvement, we may, in a few instances, obtain unexpected good results, occasionally, from mechanical apparatus or from operative surgery. But, we cannot urge too strongly the great need in just such cases of being ultraconservative. From mud- or peat-baths or salt-baths, I have sometimes had pleasant, if not enduring, effects.<sup>1</sup>

The clothing must always be carefully attended to, and wool or silk undergarments are a necessity. Sleeping between blankets is often grateful and desirable. To those who suffer from cold feet at night, long wool or cotton-flannel socks or leggings are a great comfort during the cold months of the year.

This article is suggestive rather than exhaustive, and, as the record of personal experience, I trust may be acceptable to many.

<sup>1</sup>The best artificial baths are Pennes' baths, much used abroad.

# The Prostate Gland: Its Diseases and Disorders

By WILLIAM J. ROBINSON, M. D., New York City

Editor of "The Critic and Guide" and of "The American Journal of Urology and Sexology;" author of "The Treatment of Sexual Impotence and Other Sexual Disorders"; "The Treatment of Gonorrhea and Its Complications"; "Never-Told Tales," etc.

*EDITORIAL NOTE.*—This is the second of the series of papers upon diseases of the prostate gland promised us by Doctor Robinson. It will be continued for several months. Our readers have a treat in store for them.

## Loss of Libido

CASE 7. It is remarkable how, apparently, the same pathologic condition may produce diametrically opposite results. In one of the cases, previously described, we have seen how irritation of the prostate gland may produce excessive libido. The latter may be fictitious or artificial, but it is there, and the patient's actions are, to all intents and purposes, the same as if he suffered from a genuine powerful libido. Just so we may have diminished libido or even complete loss of libido from an abnormal prostate gland. This diminished libido may follow and be the result of a previously existing and excessive libido. As we know, all hyperfunctioning is usually followed by hypofunctioning, and it stands to reason that excessive libido, when it leads to excessive sexual indulgence, may result in a lack of libido. However, in some cases, this lack of libido seems to be independent of any previous excessive libido; it is apparently the direct result of an irritable or pathologic process.

Before we go any further, it will be well to ask the reader to bear in mind that by "libido" we merely mean desire for sexual intercourse, and not sexual power. There is a good deal of confusion in the mind of the average physician regarding the various phases of the sexual act, and the words "libido," as well as "sexual impotence," are used in a rather confusing, vague manner.

Several elements are necessary, in the male, for the proper and satisfactory performance of the sexual function. First, libido. There must be a strong or at least fairly strong desire for the opposite sex. Second, erection. For the proper performance of the act, normal erection is necessary; and not only must the erection be of a certain degree, but it must not be too slow in coming, while it must last a certain length of time. Third, ejaculation. The ejaculation must not be premature, otherwise there is little satisfac-

tion to the man and still less satisfaction to the woman. Fourth, voluptuousness. There must be a certain pleasurable sensation, which varies in different individuals, during the act of ejaculation, the acme of the act, which we call the orgasm. There is still another feature, fertility. The semen must be capable of impregnating the ovum; but this does not belong to the sexual act proper. Interference with any of the four elements enumerated above renders the act unsatisfactory, and, if the second and third element are abnormal, sexual impotence of various degrees is the result.

Ordinarily speaking, then, we apply the term "sexual impotence" to weak erections or to complete lack of erections, and to premature ejaculation. The lack of the first and fourth factors, that is, lack of libido or lack of voluptuousness, or pleasurable sensation during the orgasm, by interfering with the act makes the act unsatisfactory, but does not constitute impotence.

We have seen before that a diseased prostate gland may produce premature ejaculations and increased libido, and in the case which we are about to report briefly we shall touch upon diminished libido as a result of an abnormal prostate gland.

A. A., age thirty-four, married six years, had gonorrhea fifteen years ago, of which he was completely cured. The urine was free from the slightest traces of shreds or mucus, in fact, it was crystal-clear. The urethral mucous membrane was perfectly normal, and the fact that he had been married six years, indulging in normal sexual relations without any harm resulting to his wife, as well as that he had two perfectly healthy children, is pretty positive proof that his statement, that he was completely cured of his gonorrhea, is correct. Up to six months ago, he had absolutely nothing to complain of. Then he became conscious that his libido was becoming diminished rather suddenly, that he could go for a month without experiencing

any desire, and that, when he did indulge, there was no pleasure in the act, although the ejaculation was not premature.

An examination revealed an enlarged, very sensitive prostate gland, excruciatingly sensitive in some spots. Gentle massage of the gland, with no other treatment whatever, brought about a normal condition in less than three months. He is now in as normal condition as he ever was.

#### Tremor of Hands

Case 8. This patient presented tremor of the hands, which was beginning to become more marked during the past three months. As he was doing a great deal of writing, being engaged in newspaper-work, that was considered to be the etiologic factor; but, reducing the writing to a minimum and giving up writing altogether for three weeks did not effect any improvement in his condition. He was also quite a smoker and another doctor considered this use of tobacco the etiological cause. The man could not give up smoking altogether, still, he reduced his daily amount to about one-third of what he used to smoke, without there following any improvement in his condition. He was also given hyoscine hydrobromide, in doses of 1-150 grain, gradually increased to 1-100 and then to 1-60 of a grain, but without experiencing any benefit. Also, he was indulging excessively in sexual intercourse, and then that was considered the etiological factor. It is possible that the latter was the primary factor; still, giving up sexual indulgence altogether did not produce any appreciable improvement.

Finally, an examination disclosed an enormously enlarged prostate gland, which was very sensitive. Massage plus rectal irrigations with a cold saline solution and instillations of silver nitrate into the posterior urethra brought about a complete cure. I might add that bromides given in rather large doses did not prove of the slightest value.

#### Cephalalgia

Case 9. This patient, a man of fifty-five, complained of severe headaches following sexual intercourse or straining at stool, which latter was always followed by a discharge of some prostatic fluid. While the headache following defecation lasted only an hour or so, the headache following intercourse would last, sometimes, twenty-four or even forty-eight hours. Complete abstinence for three months, during which time the prostate gland was massaged twice a week, resulted in complete cure of the condition; and it has not

returned in two years. The patient had taken every coal-tar product on the market and every headache remedy prescribed by the ethical physician or advertised in the newspapers. Nobody took the trouble to examine his prostate.

The difference between one physician and another is really not so much a difference in knowledge as a difference in the care with which the etiology is elicited and the examination made. If physicians were only more careful to get the history of their cases, and if they spent more time in arriving at a diagnosis, they would not so often need to send their patient to a specialist.

#### Constipation

Case 10. It is not necessary to report one specific case, for, instead of one case, I could report hundreds of cases. Constipation as a result of an abnormal prostate gland, is a very common affection. Consciously or unconsciously the patient afflicted with a sensitive or enlarged prostate gland often refrains from emptying his bowels when he should, and the result of failing to attend to the calls of nature is constipation; then, if this patient suffered from constipation before, that constipation will be intensified and become more and more obstinate. It is not at all claimed that an abnormal prostate gland is one of the most frequent causes of constipation; nevertheless, it is frequent enough to be borne in mind in all obstinate cases, particularly when defecation is accompanied by straining.

In this connection, it should be borne in mind that in constipation in which an abnormal prostate gland is apparently one of the factors, all irritating cathartics, such as aloin, podophyllin, colocynth, and the like, are contraindicated, because they congest and irritate the lower bowel and also congest and irritate the prostate gland. Nor is phenolphthalein a very commendable cathartic. It does irritate the lower bowel, and, if repeated too frequently, it also irritates the kidneys. Among the best laxatives in such conditions is one that possesses merely lubricating properties, and the best substance for this purpose is a heavy mineral oil (liquid petrolatum).

To emphasize: In all cases of obstinate constipation in men, the prostate gland should be examined and, if found enlarged, congested or supersensitive, should be treated.

#### Irritability

Case 11. Just plain, simple irritability. I know of no condition, except cardiac disease,

which is so liable to cause irritability, crankiness or anger and dissatisfaction with everybody around as is a diseased prostate gland. Very many cases of irritability that are often ascribed to dyspepsia can, with more justice, be ascribed to some trouble in the prostate gland, and it is remarkable how a man who is a nuisance to himself, to his family, to his friends, to his customers, in short, to everybody around, may become perfectly amiable and easy to get along with if his abnormal prostate gland has been successfully treated and brought to a normal condition.

#### Sterility From Prostatic Disease

Case 12. That a diseased prostate gland may affect the libido, the power of erection, and the ejaculation, is well known, and we have referred to it in some of the cases described above. It is not so well known, however, that an abnormal prostate gland may in itself cause sterility. The following case is very instructive:

B. B., age thirty-four, married eight years, but his wife never was pregnant. The wife was at first subjected to some treatment, but the husband had the decency to confess that he thought that the fault probably was his. He had had two or three attacks of gonorrhea before his marriage, and, in one of the attacks he had a severe epididymitis. When he gave this history, the doctors who treated him thought they did not have to go any further. The diagnosis was sterility due to gonorrheal epididymitis. Thereupon, there were prescribed for him hot baths, massage of the testicles (with and without ointments), and a lot of other things.

When the man came to me for examination, the first thing I ordered him to do was to bring some of his semen in a condom, and, to my great surprise, microscopical examination of this revealed numerous spermatozoa. Consequently, the sterility was not due to an occlusion of the lumina of the vasa deferentia. However, the spermatozoa were not motile or only very slightly so. An examination of the prostate gland and of the seminal vesicles instituted next revealed as considerable amount of mucopurulent secretion—and pus in the prostate gland and in the seminal vesicles naturally is capable of destroying or at least impairing the vitality of the spermatozoa.

Treatment was directed to the prostate gland and the seminal vesicles, and was continued until the secretion from both failed to show any pus and both organs became practically normal. Examination of

the semen undertaken at that time showed the spermatozoa normal in amount and of normal motility. Soon thereafter impregnation of the wife followed; but, for some reason, this first pregnancy resulted in a miscarriage at about three months. The second pregnancy, however, was perfectly normal and a perfectly normal boy was the result.

#### Frequent Urination

Case 13. The case I am about to mention once more illustrates the frequent and regrettable failure of many doctors to apply all the means at their disposal for a diagnosis.

This man complained of frequent urination during the day—every hour, sometimes every half hour—and of having to get up at night two or three times. While there was no pain, there was a certain disagreeable sensation, and even after urinating the bladder felt as if there were some urine in it; it never felt quite empty. The physician looked at the urine and, despite the fact that the urine was quite clear, he, without further examination, diagnosed cystitis and prescribed an alkaline diuretic mixture. The condition became only the worse, for the man had to urinate more often.

An examination showed that the prostate was greatly enlarged, congested, and quite painful. The man recollected that some two months previously he was sitting on a cold stone stoop and that the frequent urination had begun the following day. Treatment directed exclusively to the prostate gland improved the condition at once and brought about a cure in two or three weeks.

#### Hemospermia

Case 14. This patient became badly frightened, because he had observed that his semen was tinged with red as if it contained blood. While hemospermia is more generally due to inflamed seminal vesicles, it may also result from a badly congested prostate gland. This was the case in this instance. Rest, codeine suppositories, followed afterward by gentle massage, resulted in a cure.

#### Heat and Heaviness in the Legs

Case 15. When a man complains of the calves of his legs feeling hot and heavy, particularly in the afternoon, the prostate gland should, invariably, be examined, and in many instances this will be found to be the cause. Here also I will not refer to any case in particular, because I have treated hundreds of cases in which the patients had been rubbed and massaged and were even ordered to wear rubber stockings, but

all to no avail, but who were benefited at once by proper treatment of the prostate gland. It is remarkable how a diseased prostate gland will send radiations in all directions, up and down, not only affecting the body, but the psyche of the individual as well.

#### **Injury From Improper Treatment of the Prostate Gland**

Case 16. The case, or class of cases, to which I wish to refer here really does not belong to the category of diseases of the prostate gland, but nevertheless, must be mentioned; for, just as a diseased prostate gland will cause trouble, so a trauma of the same organ, when produced by improper or too violent prostatic massage, may be the cause of very great suffering.

Prostatic massage is one of our most valuable therapeutic measures; in the treatment of prostatic troubles it occupies the foremost place. Yet, like all other therapeutic measures, it must be applied judiciously, gently, and properly. If done brutally or violently, or when the gland is acutely inflamed, it is liable to do, and often does, an enormous amount of damage.

From the descriptions of patients who were subjected to prostatic massage by other physicians, I find that only too frequently massage is performed too forcibly, too vio-

lently, with the nails or tips of the finger<sup>s</sup> digging into the prostate gland. This must never be done—there must be only a flat stroking and pressing of the prostate gland, but no digging into it. I have seen a number of cases where the condition became immediately worse after prostatic massage, resulting in painful urination, in strangury, in slight hematuria, in severe dragging-down sensations, in pain in the legs, and, in some instances, in complete urinary retention lasting from sixteen to twenty hours.

It is well, therefore, to call attention at the very outset to the fact that prostatic massage is not an indifferent measure, and, while of extreme benefit if performed properly and where indicated, may cause great damage if performed improperly, too violently, at too frequent intervals, or when not indicated at all, as, for instance, in the acute stage of prostatitis.

There are, unfortunately, no short cuts to the treatment of any diseases. We must always exercise great judgment and discrimination, and particularly so in the treatment of genitourinary and sexual disorders.

Having given a few examples of disorders of prostatic origin, we shall, in the next article, begin with a systematic study of The Prostate Gland: Its Diseases and Disorders.

## **The Optimist—Does This Mean You?**

By MILTON RUGGLES

Full-gifted with power to see and understand,  
Product of ambition, noblest of the land,  
Believing in the future—in the present, too—  
This is the optimist—does this mean you?

Pure-hearted, with strength to fight and win,  
Guided by a purpose—not what might have been,  
Aiming at the greatest, nothing less will do—  
This is the optimist—does this mean you?

Unmindful of the failures, looking straight ahead,  
Outliving disappointment—profiting instead,  
Rising above discouragement, beginning life anew,  
This is the optimist—does this mean you?



# Vaccine and Serum Therapy in Everyday Practice

## I. Theory and Rationale of Vaccine Therapy

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**EDITORIAL NOTE.**—Many physicians have asked that somebody write for "Clinical Medicine" a series of articles on vaccine (or bacterin) therapy, beginning at the bottom and explaining all the details. This is "it." Doctor Wolverton is an exceedingly busy general practitioner, and he writes with the problems of his own class plainly in his mind's eye. For this and many other good reasons I am sure you will like his articles.

FROM conversation with a large number of physicians with whom the writer is personally acquainted, as well as from reading many papers written by honest and well-meaning, but insufficiently informed, men, it seems to me that there exists much misapprehension concerning the bacterial vaccines and an unwarranted fear of possible deleterious action from their use.

The subjects of infection and of immunity are, admittedly, complicated, and it requires quite a large, highly technical vocabulary in order that one may intelligently peruse the literature amassed along these lines. The man on the firing line, however, has not the time to go so fully into the technicalities of the subject; and many of the men who were graduated before modern bacteriology was made a part of the curriculum of medical schools are dismayed at the complexity of the subject and dismiss the use of bacterial therapy with the well-known remark about the impossibility of teaching an old dog new tricks.

In the same way, many men hesitated about beginning to utilize the active principles of vegetable remedial agents, after having for so many years employed the galenical preparations; however, once they made a start along the new and eminently more satisfactory lines, they never turned back. And so with the new biological therapeutic agents; let an intelligent physician employ them rationally in a few properly selected cases, and he finds that he has added a set of new keen weapons to his therapeutic armamentarium.

I have made almost daily use of the bacterial vaccines, in a large general practice, for the past five years, and can truthfully say that, when I have administered them in accordance with therapeutic and bacteriologic indications and in conjunction with the proper active principles of drugs, the vaccines have seldom failed to give splendid results.

It is because of this thorough tryout of the vaccines in an extensive general practice

and because I do not regard the vaccines as a cureall, but rather as a therapeutic adjunct of great value when properly employed simultaneously with active medicinal agents, that I have been requested to write a series of papers, of which this is the first, dealing with the various phases of vaccine- and serum-therapy as it appeals to the general practitioner. And, since—as a matter of course—the general practitioners make up the great bulk of the medical profession, I shall endeavor to present the subject in as practical a form and as free from unnecessarily technical terms as possible.

### Vaccines, Bacterins, Serums

Now, to begin with, the bacterial vaccines are, in the strict and proper meaning of the term vaccine, not vaccines at all. Vaccines proper are living pathogenic microorganisms the virulence of which for human beings has been attenuated in some one of a number of ways. Probably the best example of a true vaccine is seen in that which is employed to produce an immunity against smallpox. Then there was the notorious tubercle-vaccine, which was known as "Friedmann's serum," but which evidently was a true vaccine, as it was said to consist of a suspension of living tubercle-bacilli, the virulence of which for the human patient had been attenuated by their previously having been inoculated into a turtle. Still another true vaccine is that used in veterinary practice for the production of an active immunity against the disease known as blackleg.

As now generally understood, the "bacterial vaccines" are suspensions of killed pathogenic bacteria in sterile physiologic salt solution, to which usually is added a small percentage of phenol or trikresol as a preservative and to prevent contamination from without the container. A better name than vaccines for these preparations is *bacterins*, and this term will be adhered to in these papers.

An *immune serum*, or, as it is usually simply termed, a serum, is the blood-serum of an animal whose resistance against infection by

a given variety of pathogenic bacterium has been raised to as high a level as possible by subcutaneous or intravenous injections of dead or of living bacteria of the given variety, or of their toxins. These sera are commonly spoken of as "antitoxins," although they usually contain a number of antibodies other than antitoxin. The best-known examples of immune sera are those employed against diphtheria and tetanus.

One could not reasonably take up the study of the subject before us without saying at least a few words on the subject of *immunity*, by which we mean the specific resistance of an animal organism against invasion by pathogenic microorganisms (to all intents and purposes, bacteria).

#### Immunity

In the mind of the physician who observes while he works, there will, at times, arise the query, "Why is it that one individual as an infant contracts styes and eczema; as a child is subject to repeated attacks of furunculosis and paronychia; during adolescence, to severe acne; and, as an adult, to chronic eczema, pus infections of the tear-sac, and the like? Whereas, on the other hand, another individual is practically immune, throughout a long life, to all infections by the staphylococci?" The tissues of the former person appear to furnish an agreeable soil for the growth of the staphylococci, while those of the latter are totally unsuited to the microbic wants; but, as to the real, basic cause of this difference in immunity we are ignorant.

Now, the immunity of an organism may be either of the *active* or of the *passive* type.

*Active immunity* may be brought about (a) by the introduction into the animal organism of living pathogenic bacteria of a proper degree of virulence and in sufficient numbers to produce the pathologic phenomena that are designated as infection; following recovery from this infection (if the subject survive), there usually exists an immunity against a second attack of the same disease, said immunity persisting for a variable period of time; or (b) by inoculation, into healthy tissue, with *killed* pathogenic bacteria (bacterins, or bacterial vaccines). The latter method certainly is by far the more desirable, as no disease is produced thereby.

*Passive immunity* is of but short duration, and is brought about (in so far as it concerns the subject with which we are now dealing) by the injection (subcutaneous, intramuscular,

intravenous, subdural, and the like), of immune sera obtained from immunized animals.

The sera, since they produce only a transitory, *passive* immunity, have, of necessity, a very restricted use; while the bacterins, producing, as they do, a much more protracted, *active* immunity, have a much wider field of usefulness.

In short, we inject into a patient a bacterin, in order to create an *active* immunity; that is, we persuade him to produce his own antitoxin and other immune- or anti-bodies; the *sera* (or serums) we inject for the purpose of producing a quick, *passive* immunity.

The former—that is, the bacterins—are employed when it is safe to wait anywhere from a few hours to a number of days for their specific action to take place, as in the treatment of all chronic and also of various acute infections. The sera, on the other hand, are made use of whenever quick action is imperative, as in the case of diphtheria, tetanus, and cerebrospinal meningitis. Unfortunately, the really valuable sera, for all practical purposes, are limited to those last mentioned; the antistreptococcal and other sera frequently giving disappointing results or, in some instances, even being a menace to the patient's life—for reasons that will presently be explained.

#### Bacterin and Serum Are Not Synonymous

We should be careful not to confuse the terms serum on the one hand, and bacterin or vaccine, on the other. I have tried to make clear the difference between the two; and, certainly, the difference is sufficiently great. And, yet, I have often heard medical men—men otherwise well informed—speaking, in medical-society meetings, of, say, typhoid-"serum" when they meant typhoid-"bacterin." Typhoid-serum has, practically, never been employed in this country, and but little in Europe. If a man does not know the difference between a bacterin and a serum, can he reasonably be expected to obtain satisfactory results from the administration of either of them?

Returning to the matter of immunity, this may be either local or general. A few years ago, I saw the following, to me, at that time, remarkable sequence of cases in the same family; although now, in the light of recent bacteriologic discoveries, the whole matter seems clear enough.

Mrs. F., a woman of about 40 years, had a very severe attack of facial erysipelas (which we now know is caused by the strepto-

coccus of Fehleisen). Her nephew, Karl M., a young carpenter, who was staying at the same house, scratched his arm on a nail; there developed a severe attack of streptococcus septicemia. The little daughter of Mrs. F. soon had the now familiar sequence of tonsillitis, acute rheumatic arthritis, endocarditis, and chorea. And, finally, John M., a son-in-law of Mrs. F., had an attack of fulminating appendicitis, with gangrene of the appendix and some two feet of adjacent intestine, resulting in the death of the young man. All these people were living under the same roof, and in each there occurred a severe streptococcus infection, although different organs or tissues were attacked respectively in each one.

In another case which came under my care about three years ago, a young lady was suffering from acute follicular tonsillitis. Just as the throat inflammation was beginning to subside, acute appendicitis set in and demanded prompt operation. Here, the susceptibility of lymphoid tissue to infection by the streptococcus is well illustrated, it being well known that the tonsil and the appendix are histologically quite similar.

So, a patient who has sustained an attack of lobar pneumonia may thereafter be practically immune against subsequent attacks of pneumonia, but later suffer greatly from pneumococcus infections of the nasopharynx, middle ear, and the like.

As for myself, I had a very severe attack of acute rheumatic arthritis, at the age of 16 years. Since then, I have never had a similar attack; but, until I had my tonsils removed, I would have an attack of tonsillitis every time I attended a case of acute arthritis. Presumably, incomplete immunity on my part.

In the study of immunity, the attention of the investigators has been centered almost wholly upon the blood, to the exclusion of the subcutaneous and muscular tissues. This would appear to be all wrong, as the same blood supplies the skin, subcutaneous tissues, joint-structures, nasopharyngeal mucosa, pulmonary tissues, appendix, and other tissues. Yet, what a diversity of location of the tissue whose resistance to infection is below par, as has been detailed in the examples given in the paragraphs immediately preceding. This would point to some intrinsic variation in the cellular chemistry of the various tissues, which makes one tissue or organ a favorable breeding-ground for some specific microorganism, while another part of the same person's body is entirely immune to it,

for the time being, at least. Discoveries may yet be made in cellular chemistry which will aid us materially in our endeavors to confer immunity against bacterial invasion (infection.)

#### Various Forms of Immunity

Immunity may be complete or only partial. Man is naturally completely immune to hog-cholera. On the other hand, the higher apes, while never naturally infected with syphilis, may, under certain conditions, be inoculated experimentally with this disease. Again, one attack of any of the acute exanthemata, as scarlet fever, measles, and the like, usually confers complete immunity upon the individual for the remainder of his days; however, in a small proportion of persons, this immunity may be only partial, so that a second attack may be sustained.

Also, immunity may be either natural or acquired. Allen<sup>1</sup> defines *natural immunity* as "the resisting power inherent in an individual, independent of influences from without"; while "*acquired immunity* is the resisting power gained by an individual in consequence of influences from without."

Natural immunity is generally characteristic of all the members of a given species. Thus, for example, man is naturally immune against the organisms of hog- and of chicken-cholera; again, the lower animals generally, against the gonococcus.

In *acquired immunity*, the protection is generally the result of the processes whereby recovery is brought about in an individual against invasion by that particular microbic agent against which the immunity has been acquired; for example, typhoid fever, diphtheria, varicella, variola, measles, pertussis.

However, acquired immunity may be conferred in other ways than by accidental infection. Immunity may be *passively* acquired by the administration of serum, or antitoxin. An *active* immunity may be acquired (a) by inoculation with an "attenuated virus"—cowpox, or vaccinia for example; also, in the bovine species, by blackleg-vaccine; (b) by the subcutaneous injection of a killed culture (bacterin) of the specific pathogenic bacterium against which immunity is desired.

We may say that recovery from all infectious diseases is owing to the acquirement of an immunity; and this may be partial or complete, local or general.

It would appear, from the investigations of many workers, that the acquiring of this

<sup>1</sup>Allen: "Vaccine Therapy and Opsonic Treatment". 4th ed., p. 4.

immunity depends, in great measure, at least, upon the elaboration within the tissues of various substances having a deleterious action upon the bacteria and the products of their activities. These immunity-conferring substances have been given the general name of immune substances or antibodies. Some of these appear to be products of normal tissue activities and, therefore, always to be present in greater or less amounts ("non-specific antibodies"); others are of service only against that particular species of bacterium in response to the entrance of which they have been elaborated ("specific antibodies").

#### Nature of Bacteria and Their Toxic Products

Before defining the various antibodies, it may be well to consider for a moment the nature of bacteria and their toxins. To the lay mind, bacteria is a synonym for microscopic "bugs," or animalcules; while, to the average medical man, they represent the lowest order of vegetable life—microscopic, unicellular plants.

Although this latter view is correct, so far as it goes, the matter is not as simple as it may seem at first glance. The protoplasmic bodies of pathogenic bacteria contain a large percentage of proteinic (albuminous) material, which is highly toxic to the animal economy. Then, too, bacteria, as a result of their metabolic activities, produce, among other chemical substances, *toxins*. Toxins, again, may be elaborated and retained within the bacterial cell ("endotoxins"); or they may be set free into the surrounding medium ("exotoxins"). The exotoxins show a selective affinity for some particular tissue. Thus, diphtheria- and the tetanus-bacilli are the most conspicuous examples of bacteria producing exotoxins that have a selective affinity for nerve-tissue. It may be remarked, in passing, that about the only antitoxic sera which have proven of signal value in the treatment of infections are those prepared against these two diseases, diphtheria and tetanus, the causative agents of both of which produce exotoxins.

In marked contrast to the foregoing exotoxin producers, are the members of the streptococcus group of pathogenic bacteria, which produce only endotoxins. The anti-streptococcal serum is antibacterial, causing a destruction (bacteriolysis) of the bacterial cell, with consequent setting free of the contained endotoxins. Sometimes, when the patient is already giving evidence of extreme toxemia, the administration of a large dose of antistreptococcal serum may cause such

wholesale destruction of the streptococci that the human organism is completely surcharged with the additional flood of liberated endotoxin, and the exodus of the patient be thereby hastened rather than retarded.

By whatever method an immunity may be brought about, it is in response to the introduction into the human tissues of a sufficient number of bacteria, with their contained toxic proteins and specific endotoxins, and their subsequent production of exotoxins. The presence of these toxic substances acts as a stimulus to the formation of immune substances or antibodies by the leukocytes (probably chiefly the large mononuclear and polymorphonuclear varieties) and the fixed connective-tissue cells.

#### Antibodies Defined and Described

These immune substances, or antibodies, are of various kinds, possessing different roles. In our present study, we shall consider only those a working-knowledge of which appears to be indispensable to a proper understanding of the rationale of serum- and bacterin-therapy. These substances are known, respectively, as "antitoxins," "agglutinins," "lysins," and "opsonins."

*Antitoxins* are complex chemical substances elaborated within the animal organism (the human body), in response to the presence of bacterial toxin, with which latter substance they combine, the effect being, to neutralize the poisonous properties of the toxin. Antitoxins doubtless are specific; that is, the antitoxin formed in the body to neutralize diphtheria-toxin would have no appreciable effect upon the toxin of tetanus, and conversely.

*Agglutinins* are substances formed within the body which, when brought in contact with pathogenic bacteria, cause an "agglutination," clumping or massing together of the bacteria. Agglutinins are not so nearly specific in their action as are antitoxins, in that an agglutinin formed as the result of invasion by one variety of pathogenic bacterium often will cause the agglutination of a closely related group of organisms. For example, a blood-serum that will cause the clumping of typhoid-bacilli often will produce a similar agglutination of the various paratyphoid bacilli.

This latter phenomenon seems rather suggestive of the probability of the "pleomorphism" or "mutation" of one so-called "species" of disease-germ into another, especially in the light of results of experimental work recently carried out by Rosenow (of which more later).

Agglutinins are made use of in a diagnostic way, as well as in the treatment of disease. This is best illustrated by the well-known Widal test for typhoid-fever, in which the patient's blood-serum is mixed with a living or a killed culture of typhoid-bacilli, and then the ensuing reaction is noted. If the patient is the victim of, or has been immunized against typhoid, his serum contains agglutinins specific against the bacilli, even early in the disease, before the clinical symptoms have become surely diagnostic of the condition.

As the result of the presence of this specific typhoid agglutinin, the bacilli in the test soon begin to clump together in masses, this phenomenon being visible, not alone with the aid of the microscope, but to the unaided eye as well. And not only does this specific reaction take place when a living culture of the typhoid bacilli is employed, but also when killed bacilli are thus used—except those killed by heat.

Wright<sup>2</sup> has done an immense amount of research-work, along the line of specific agglutination tests, for the diagnosis of various infectious diseases. In fact, it was while working out specific agglutination tests for the differential diagnosis of Malta, typhoid, malarial, and other fevers affecting the British soldiers quartered along the Mediterranean that he hit upon the idea of employing killed cultures of pathogenic bacteria (bacterins) in the treatment of infectious diseases. We shall have occasion many times in these papers to refer to the work of Wright; indeed, it would be impossible to write any paper upon the subject of bacterin-therapy without doing so, for reasons which will soon become obvious.

*Lysins*, or, more particularly, bacteriolysins, have the property of destroying the bacterial cell, that is, of causing its disintegration. Reference to this action of anti-streptococcic serum was made when considering endotoxins. Antistreptococcic serum is perhaps the best example that could be given of a serum containing chiefly bacteriolysins as the immune substance, or antibody.

*Opsonins* (from the Greek word "opsono," meaning, "I cater," or, "I prepare for eating") are substances, elaborated within the animal body, which have a sensitizing action upon the invading bacteria; that is, the opsonins unite in some way with the bacteria, so that the latter fall a much easier victim to the phagocytes (leukocytes, white blood-corpuscles). Wright laid much stress upon the function of the opsonins in the production of

immunity; while Metchnikoff regarded "phagocytosis" as almost, if not quite, the only important factor concerned in immunity. It now appears that these two processes, opsonization and phagocytosis, go hand in hand, and that each is indispensable to the other.

By *phagocytosis*, we mean the ingestion and destruction, by digestion, of pathogenic bacteria by the wandering-cells (devouring-cells, polymorphonuclear leukocytes) of the blood, which, in response to the entrance into the body of pathogenic bacteria in considerable number, leave the blood stream and pass through the tissues to the focus of infection. There, under suitable conditions, these highly useful scavenger-cells, or phagocytes, surround and engulf the offending bacteria and destroy them by a process of digestion. This sounds simple enough; but, the bacteria must first be sensitized by the opsonins. Then, also, in some cases at least, the agglutinins and bacteriolysins play their part in making the microbial agents fall an easier prey to the phagocytes.

There are a large number of other immune substances that doubtless play an important, though a somewhat minor, role in the production of an immunity; but we cannot here go into the complex details, many of which are not yet well understood, even by the recognized experts in this special line of work.

Oftimes, to employ a colloquialism, the phagocytes "bite off more than they can chew," taking up a greater number of bacteria than they can dispose of; or the bacteria may be of an extreme virulence; and, as a result, the defenders, and not the invaders, fall in the battle.

*Pus* is a mixture of blood-serum, living and dead white corpuscles, tissue-cells, and bacteria and the toxins of bacteria.

Some opsonins seem to be general in their action, while the great bulk are specific. That is to say, it seems that there is constantly on hand, in a healthy individual, a certain store of opsonin available against bacteria in general. But, infection with any particular pathogenic germ calls forth the production of a relatively greater amount of specific opsonin, the action of which is against that particular germ alone.

Opsonins are also found in human milk, in about one-fifth the amount present in the blood.<sup>3</sup> This may possibly prove an important factor in the immunity of nursing infants against infection.

It is highly probable that the leukocytes, especially the large mononuclear variety, have

<sup>2</sup>Wright: "Studies in Immunization" (1910).

<sup>3</sup>Allen: "Vaccine Therapy and Opsonic Treatment"; 4th ed.; p. 29.



for one of their functions the production of antitoxins. In certain of the acute infections, notably lobar pneumonia, the prognosis is best when there is a high leukocytosis, and grave when there is no increase in the leukocytes, or even a decrease in their number (leukopenia). A connection between this fact and the role of the leukocytes in antitoxin formation is highly probable.

Bacteriolysins are believed to be formed by the polymorphonuclear leukocytes. In bacterin therapy, an attempt is made to

compel healthy tissues vicariously to protect diseased ones. The latter having failed to respond to infection by the elaboration of antibodies in quantities sufficient to overcome the infection, a stimulus is applied to the former by the subcutaneous injection of killed cultures of the offending bacteria, in the hope that the healthy tissues may respond by producing antibodies in comparatively large amounts, the deficiency thereby being made good at the focus of infection.

*[To be continued.]*

## Adventures of a Frontier Doctor

No. 2. At the Mercy of the Skiptuat

By CHARLES STUART MOODY, M. D., Hope, Idaho

WELL, well, how time does fly. (Where, I wonder, have I heard that expression before?) It is now nearly twenty-five years since my wife, the brand-new baby, and I reached our destination on the eastern half of the Nez Percés Indian Reservation, then soon to be opened to white settlement. Clad in the garments of early spring, the country that greeted our eyes was a most beautiful sight; so beautiful, indeed, that even now when I look out upon some lovely landscape my mind unconsciously compares it with that Indian land of the years that are gone. What wonder that the simple-minded red man hesitated to sign away his title to this glorious land. As it was then, untouched by the plow of the husbandman, smiling in the sunshine, it was truly an ideal home for those simple children of the untilled wastes. All that is now changed; the restless, invading white man has harried the fair face of the land and caused it to bedeck itself with a different green; the original inhabitants have gone to face the sunset in the West, except for one, here and there, who, perhaps wiser than his fellow clansmen, has adopted the ways of living of the white brother and has managed to survive the cataclysm that is destined to engulf his race.

As the four-horse wagon, that had conveyed us across the mountains in a three-day's journey, drew up on the little green patch facing the shining river where we had chosen to fashion our habitation, there was none to greet us, save a few Indians lounging about. These redskins eyed our coming with stolid Indian indifference, except one. This one came up to us, and in fairly

good English gave us welcome, then reached up his hands for the baby. As my wife consigned the little one to his keeping, it was with much misgiving, little knowing at that time that one of the most lovable traits of the Nez Percés is their love of children. White men were few on the reservation and of white women there were none; a passing miner now and then, a few squawmen, those were all that we could see. The post-trader and his wife, four miles down the river, were our nearest neighbors. Rather a lonesome outlook for a young woman used to companionship and the society of her kind. Thank God! she was of the stuff that pioneers are made, and never, in all the years that were to follow, has she murmured at her lonely lot.

### The Log-Cabin Home

We set to work immediately constructing a rude log cabin, wherein to dwell and store the few medicines and appliances my meager pocketbook had been able to procure. Time sped rapidly that spring; there was much to do and little help. The Indians were willing to assist, but did so in that spasmodic, ineffectual manner characteristic of the aborigine everywhere. When we arrived the salmon-run was on in the river, and, so, it was quite the usual thing for my helper for the time being to lay down his ax, get his canoe and go fishing for the day, thus leaving me to handle the heavy logs alone. As a slight compensation for his ungracious desertion, the Indian always shared his catch with us. Fortunately, I had been trained to woodmanship, hence was not at a loss as

to what to do. In due time our cabin was complete and we foresook the tent for our more substantial dwelling.

When the walls of our cabin were about half up, a tall old savage, dressed in all his native finery, rode up one day, dismounted and proceeded very minutely to examine the premises. Without vouchsafing a word of greeting, he walked all about the place, eyeing everything with ill-concealed scorn. His investigation completed, he mounted his pony and rode away.

"That," said the Indian who was helping me that day, "was the *hyas sikiptuat*." In other words, he informed me that our visitor was the chief medicine-man of the tribe. That was when I learned that the Indians still adhered to their ancient tribal customs, among which was the employment of the native medicine-man, or *shaman*, in illness, a piece of information that was destined to cause me a great deal of anxiety in the very near future.

Spring passed and summer came. We were having but little professional employment; for, the Indians were loath to trust their lives into the hands of the untried white "sikiptuat" and were seemingly content to heal themselves with that old tried and true remedy, the *vis medicatrix naturæ*, or through the incantations of the medicine-man. To tell the plain truth, my only patient for two months was a cow with a broken leg, in the adjustment of which, moreover, I did not cover myself with any particular glory.

Along late in June, my wife and I were seated on the river-bank one day, when we saw an Indian canoe coming down the rapids with the speed of an arrow. The canoe turned in to the shore and a stalwart savage leaped ashore. He came up and in broken English made us understand that his child was very ill and that he desired me to accompany him some half-day's journey up the river to his tent. From his actions more than his words, I gathered that the little one was suffering from some form of infantile diarrhea—a disease very prevalent among the Indians—and that the child was really seriously sick.

#### The First Professional Visit

Before going to my present station, my preceptor had received from The Abbott Alkaloidal Company (then just starting in business) a quite liberal-sized granule-case. This, one day, he handed to me with the remark: "Charlie, I am too old now to learn new tricks, but here is something that I

am inclined to believe will one day revolutionize the practice of therapeutics; take it and see what you can make out of it."

Thus far I had had but little opportunity to try among my Indians these alkaloidal granules, while this was an occasion where it would be impossible to carry a heavy medicine case. So, I slipped the little case filled with the alkaloidal granules into my coat-pocket and announced myself ready for the journey to see the ailing child.

Taking one side of the river, to avoid the swift current, my Indian boatman plied his paddle so effectively that we arrived safely at the Indian settlement just as the sun was hiding himself behind the western hills. Several families were making their summer home at this spot. Almost the first person I met, when I stepped ashore, was the old medicine-man visitor of the previous spring. The old fellow eyed me with such positive malevolence that I asked my guide what was the trouble, and was informed that the medicine-man was jealous of my interference in the case and was trying to incite the other Indians to mutiny. As we walked up the shore toward the tepee where the sick child lay, I noticed that the Indians drew aside and were morose and sullen, watching my every move with angry glances.

We entered the tepee, which was still hot and close from the heat of the summer day just passed. The little one, so thin and wan that it bore little resemblance to a human being, lay upon a couch in one corner while the mother vainly endeavored to drive away the flies that covered the little sufferer in swarms. I found the mother to be an intelligent Indian woman, who had been educated to some extent by that lovable Indian missionary, Miss Kate C. McBeth. I was pleased to find her in command of sufficient English so that my instructions were intelligible to her, for, at that time my command of the Nez Percés tongue was still decidedly limited.

Never did a case look more hopeless to me. The little fellow was so weak that he did little but moan, lying with upturned, half-closed eyes, while the bowels moved involuntarily every few minutes. Those of you who have practiced among the lower classes will recognize the picture without further elaboration. Intestinal antisepsis was then in its infancy, and only a very few practitioners were brave enough to advocate it; however, I resolved to give it such a trial as it had never had before west of the Rocky Mountains.

The child's heart action was a mere flutter, like the feeble efforts of a captive butterfly to escape, and I realized that something must be done at once, else my little patient would be numbered with the angels. My pocket-case contained a vial of glonoin, and, so, I took out a tablet containing 1-250 grain and dropped it into the child's mouth. In a few minutes this was followed by another. To my intense delight, I perceived a red tinge showing through the copper-hue of the skin and that the heart was responding to the stimulus. Then I proceeded to institute intestinal antiseptics. Before going on with this, however, I had the good sense to administer a copious enema of pure hot water.

My granule-case contained tablets of sulphocarbolate of zinc, a salt which my old-style textbooks asserted could not be given in greater doses than 1 grain. Here was a case, however, that demanded heroic treatment, and the little brochure on the granules, which I had been reading, insisted that zinc sulphocarbolate was perfectly harmless in 5- or even 10-grain doses. So, I crushed a 5-grain tablet in a little water and managed to get the child to swallow it. In a few minutes I gave another and yet another. The way I poured that zinc salt into that kid would have made the man who compiled the U. S. Dispensatory turn over in his grave had he heard of it; however, along toward midnight I had the pleasure of seeing the bowel movements become less frequent, the distressing vomiting cease, the upturned eyes come back to the normal, the continuous moan give place to calmer breathing. Then, tired out by my long journey and the constant vigil, I gave the child's mother some simple instructions relative to administering the medicine and told her to call me early in the morning.

#### The Nightly Surprise

I stepped outside the tepee, intending to go down to the river-shore and sleep the rest of the night on the warm sand. I had not proceeded ten feet when a rope fell over my shoulders, and before I could free myself it was jerked tight around my arms, a powerful and not overly clean hand was clapped over my mouth, several arms seized me and, struggle as I might, I was borne down to the earth. All of this was done in perfect silence and so quickly that I hardly knew what was happening. Dark forms were outlined above me as I exerted all my strength to free myself, and among them I discerned the gigantic figure of the Indian medicine-

man. In less time than it has taken to tell, I was bound, gagged, and carried to a tepee, on the outskirts of the village, was thrust inside, and there lay on the bare ground, wondering what was to happen next; indeed, to be truthful, I felt just a little frightened at the turn things had taken.

In a short time, I heard the sound of the medicine-man's tomtom beating in the tepee where the sick child lay, and heard also the monotonous drone of the old man's voice as he sang his incantations. I lay thus all night, the thongs cutting into my flesh, while I listened to the ceremony of the savage practitioner who had evidently taken this means of supplanting me.

Dawn comes early in these latitudes and it was perhaps no later than four o'clock in the morning when I heard the first sound of the Indians beginning to stir in the camp. Now, the Indian dog is a strange animal, half dog, half coyote, apparently, and will pay no heed to the Indians, but the smell of a white man seems to attract him. It was not long before a half dozen of these canines were sniffing about my prison, and soon one of them gave a long-drawn wolflike howl, which was chorused by the others.

Then, in a few minutes, I heard the patter of moccasined feet and a sharp command in a woman's voice. The dogs scattered and the mother of the sick child thrust her head inside the tepee. It was still dark inside and at first she did not see me; but, making a supreme effort, I rolled over. With a motion quick as a cat, the woman sprang into the tepee, whipped out a knife, and cut my bonds. As soon as my hands were free I tore the filthy rag out of my mouth.

"How is the baby?" I asked.

"It is better," she replied. "But, how came you here?"

I told her as briefly as possible.

"Lotwick told me that you had said the child could not live and were gone. Wait," she continued, then slipped out of the tepee.

I sat there in suspense for several minutes, fearful that the medicine-man or some of his followers would come and discover that I had been freed. After some ten minutes the woman returned, slipped into the tepee, and from the folds of her dress produced a heavy Colt's revolver fully loaded. "Take this," she said, "and use it if necessary."

That effective-looking weapon seemed to me like a friend from home. With it, I was prepared to face the medicine-man and all his friends. With the revolver clutched in

my hand, I left the tepee with her and walked over toward the place where the sick child lay. The medicine-man was still in the tepee and still engaged in his ceremonies. One glance at the child told me that it was much improved. I approached the medicine-man and told him to get out, at the same time emphasizing my remarks with

the revolver. While the words were probably not understood, it seemed the weapon spoke some sort of universal language, for the old chap sprang to his feet and vamoosed like a frightened rabbit.

I remained with the sick child until noon, then, with my Indian friend as canoe-man, shot down the river homeward.

## Corporation Surgery

How the "Company Doctor" Handles Emergency Work

By SAMUEL C. BEACH, M. D., Chicago, Illinois

### II.

**I**N THIS paper, some of the methods of handling emergency-cases of the kind that occur in factories and workshops will be outlined.

As a matter of interest, the subjoined table will show just what trades and occupations furnish the greater proportion of these, the civil occupations, exclusive of railroading, alone being considered. Railroad emergency-work is really in a class by itself and will be so treated in a later paper, while this one will be confined to the purely manufacturing industrial accidents.

Teaming.....	22.9 percent
Quarrying.....	15.7 percent
Mining.....	14.6 percent
Building trades.....	11.4 percent
Chemical manufacturing.....	9.2 percent
Electricity.....	6.3 percent
Glass.....	4.9 percent
Printing.....	2.8 percent
Manufacturing, average of all combined.....	9.5 percent
Farming.....	11.1 percent

It must be remembered that about four-fifths of the injuries handled are minor in character, and that they are of importance only because *time* is the great desideratum; in other words, the injury must be so cared for as to give the quickest possible positive result and prevent the loss of the fewest possible number of days both for employer and employee. Regarding this latter important point, the First-Aid Conference, at its meeting held in Washington, D. C., in August, 1915, decided that "the earlier the first aid, the better the immobilization, the more careful the transportation, the shorter [will be] the period of disability and the less the loss of function."

Speed does not necessarily mean the rapidity with which the relief-measures are undertaken and performed, but rather the

consistent, conscientious, painstaking manner of caring for the injured person and with the least possible loss of time; and to this end the most carefully planned organization must be built up. It must also be considered that the patient does not want to lose any more time than is absolutely necessary, inasmuch as he is dependent entirely upon the work of his hands for the support of himself and family; while, on the other hand, the employer does not wish to lose the time of his artisan, because the latter's work constitutes a cog in the great wheel of his manufacturing processes, without which it will move but jerkily.

### When a Workman Is Injured

Inasmuch as speed applies to every step of the process which follows the occurrence of the accident, the manner of handling the case will be considered in detail.

When one of the men is hurt, he (if in condition) reports at once to his foreman, exhibiting the injury and stating how it occurred. If the injury is such that he cannot do this, then a stretcher (always kept within reach near the first-aid cabinet) is brought and he is carried to the hospital-room, if there is one in the building. If on account of the severe nature of the injury it should become necessary to call the surgeon (and this comes within the scope of the foreman's duties and is left to his judgment), the corporation-surgeon can always be reached at once; for, it will be remembered, he devotes his entire time to this work, so that, making a speedy run to the factory by automobile, he usually "gets on the job" inside of five minutes. The doctor thus sees the injury free from any but occupation contamination, the foreman having only applied a pad of sterile gauze from the first-aid cabinet, in accordance with his instructions;

for, the latter absolutely prohibits the *ad interim* application to the wound of any water or other cleansing or disinfecting agent, while in cases of considerable hemorrhage the foreman has instructions to apply only the sterile pad and pressure—it being considered better for the surgeon to apply the constrictor, if needed. The doctor now having assumed entire charge of the case, the actual dressing of the injury is performed, either at the surgeon's office or, if the lesion is one of major character, at the hospital, in this case only such details being attended to at the office as are necessary to insure safe transportation.

It will be observed that in the handling of the case thus far absolutely no time has been lost—no waiting to find telephone numbers, no sending for another surgeon because the first one called was out, no hurried consultations to determine what shall be done. All this has been foreseen and provided for; and, with the smoothness of the movement of a great mass of machinery, the injury is cared for according to the best-known methods of modern surgery, with the least possible loss of time, and with due regard for the interests of everyone concerned.

The relative frequency with which one meets the various kinds and classes of injuries is of interest, and the table below gives a fairly accurate picture for purposes of comparison and enlightenment. These figures, of course, will vary with the location and the nature of the surgeon's work; nevertheless, they will give an idea of the relative frequency with which the various classes of injuries are encountered. Thus, in a total of more than 5000 accidents, there were

Fractures	1500
Simple	700
Compound	875
Lacerated wounds	640
Contused wounds	510
Comminutions	500
Burns	290
Avulsions	230
Dislocations	85
Sprains	75

These classes will be taken up and treated individually in the order in which they occur in the above table.

#### Fractures: Diagnosis and Management

In the care of fractures, the only diagnosis accepted is an exact diagnosis; and this is not a difficult matter in over one-half of the cases met with; for, as will be seen by reference to the table, they are compound, and indeed comminuted, and all other conditions described

by the words that mean complicated, infected, and difficult to handle. The surgeon usually gets an inkling of the nature of the condition before he leaves the emergency-station, and, therefore, is fully prepared in the matter of immobilization-dressings, both permanent and temporary. In the simple fractures, the question of exact diagnosis is sometimes more difficult. At all events, the x-ray apparatus must always be within touch, so that a skiagram may be made following a careful examination and exact diagnosis of the position of the fragments; especially is this important when the fracture implicates the joint surfaces.

An attempt to place a permanent fixation-dressing is rarely made at the place of the accident; only a dressing of a temporarily retentive nature being made and then the patient transported to the office or hospital in an ambulance, where the permanent retention-dressing is placed in position. This dressing is made of plaster-paris, and reinforced with metal strips when it is necessary to fenestrate, as so often is the case.

The position in which the injured member is fixed depends wholly upon the nature of the fracture, its obliquity, amount of comminution, and many other modifying factors; suffice to say that here is where the resources of the surgeon are severely taxed, for, no rule can be formulated, one being guided and governed entirely by the necessities of the particular case. One daring surgeon with whom the author is acquainted dresses most of his compound fractures with a complete plaster cast, *without fenestrating*, and then lets the case go for eight to ten days without redressing—and he gets the most excellent results, too. His preliminary disinfection, operative measures for mechanical fixation, and manner of applying the cast, however, are most careful. Still, greater conservatism is to be recommended in these cases—one cannot be too careful.

Before the patient is discharged, it is well to take a final skiagram, for purposes of comparison—and the fact should be clearly borne in mind that the skiagram is not admitted as evidence in a court of law, unless it was taken under very certain specific conditions, which are not often complied with.

#### Lacerated Wounds

Lacerated wounds next engage our attention; and it is here that the question of disinfection comes so clearly to the front, and that the manner of application and what agent to be used becomes of such impor-



tance; for, it is in these cases that the action of our disinfecting agent can be studied from day to day and the results compared with other agents used in previous cases. Every surgeon has his favorite remedies, and naturally he praises these when speaking of the good results obtained by him—due entirely, of course, to the disinfecting agent used. However, the process of elimination has caused many of the older agents to be shelved, and more recent experience seems to point definitely to iodine as the ideal local antiseptic for general use; for, it is easily handled and applied in the form of the tincture or other solution. Thus, for instance, the United States Army medical department has recently adopted this particularly practicable agent in its service; namely: a mixture of 1 Gram of iodine and 1 1-2 Grams of potassium iodide is put into a glass tube, and this powder, when needed for use, is dissolved in 50 Cc. of alcohol or water. So, also, the use of iodine was highly recommended at the meeting of the First-Aid Surgeons held last August. Indeed, iodine is probably the antiseptic agent most universally employed at present in the treatment of accidental wounds.

However, certain factors are essential in order to obtain best results, and prime among these is that the wound be kept entirely free from water. Foremen in shops are instructed to keep the wounded men away from water, for it is so very natural to apply cold water to the part, in order to wash the blood away. It has been found that this wetting interferes materially with the antiseptic action of iodine, and not only limits its germicidal action, but has a tendency to give rise to blebs when applied to thoroughly moistened skin.

Next in importance comes the necessity of the freedom of the wounded parts from grease. This removal of grease and dirt can be effected with the aid of oil of turpentine; the latter being removed with alcohol. It is well to bear in mind, however, that it is of more importance to apply tincture of iodine *early and thoroughly* than to "dab and fuss around" with other agents without really accomplishing much good; for, iodine exerts the greatest germicidal action, and the sooner it is applied, the sooner there will be inhibition of pernicious bacterial activity.

Regarding these lacerated wounds (of which, as seen by the table, there are quite a large proportion), it is to be remembered that they are rarely simple lacerations, but mostly are produced by a combination of crushing, cutting, and tearing forces; and this makes good results much harder to ob-

tain, inasmuch as there has been ground into the tissues all manner of occupation-detritus, which obviously increases the difficulty of obtaining anything like a clean surface and thus retards the healing process.

#### Importance of Conservative Surgery

The nature and importance of speed having been well emphasized, just a word will here be written regarding another cultivated surgical virtue, but one very difficult to attain; namely, conservatism. The surgeon is so often tempted, especially at the end of a long and arduous day, to gain a rapid and brilliant result by amputating. But, wait—is the result truly a brilliant one? The workman is brought in with a hundred-thousand-dollar maimed arm. Yes, that man's arm is worth all of that sum, when one considers the number of years (if he be young) of possible usefulness lying before him; the help and support which he should yet give to future workers, his children, born and unborn. Well, there he lies on the table, and it's up to *YOU*.

Right here is where thought and the habit of thinking rightly comes in handily; for, under such circumstances, your first thought will then be, *conserve!* Straightway you will begin to plan and scheme to save just as much of that man's arm as you can; right here is where you will begin to snip and whittle and iodinize, put on a simple moist dressing; and then do all these little things over again at the next dressing. Nothing brilliant about that, no, no! But, still, your victory will be immeasurably greater, for, the final result will be far better, and nature's virile forces are standing invisibly at your elbow, ready and willing to help. So, then, my friend, conserve. Plan, plot, scheme, invent, utilize every possible chance to save that arm. It is so easy to amputate, I know, and it can be done so quickly. But, you can not sew that arm back on again! Trim and stitch and dress, trim and dress, day in and day out—it is a fine fight, worth any man's mettle; and the reward is so great that one single victory is worth many a cruel failure.

If, perchance, someone is reading this paper to find rules for the care of this class of injuries, then let it be said at once, there are no such rules. Make up rules for yourself as you go along—and then make a new set for your next case. For, that's what you'll have to do. Only, running through each and every set of your formulations, showing in letters of fire, and thereby burning deep into your inmost consciousness, let that word stand out

boldly—CONSERVATISM. Then, with this obligation as a trusty sentinel, you may wrap the mantle of surgical conscience about your form and lie down to pleasant dreams.

#### Conservatism Practically Applied

Now to get down to "brass tacks" on conservatism, just let us glance at the figures on the mortality following conservatively treated cases and those subjected to radical measures—it will surprise you to learn that it has been estimated that the mortality is 4 percent under conservatism as against 20 percent under radicalism.

When a patient comes to you with multiple injuries, put your pride "in your pocket" and get your professional brother from across the street to help you, letting him do one operation at the same time that you are doing another; for, it has been found that performing operations synchronously under such conditions will lessen mortality tremendously. Would that our professional breadth and charity might keep even pace with the great advances that have been made in surgery, for then the time would speedily come when we no longer should hesitate to send for "the fellow across the way," resting assured that he would do as much and as well for us and our patient as he would for his own patients, and only be thanking Providence for the proximity of such a good neighbor.

#### Contusions, Burns, Shock

*Contused wounds* occur next in order of frequency, and these are likely to be accorded very little attention, for the reason that they do not require surgical dressing. These little injuries, however, disable the workman, especially on the day after they happen; moreover, by causing restriction of the movements with which he performs his daily work, he is rendered more liable to still greater injuries.

For these reasons, even little contusions should be given careful attention; hot fomentations and liniments being applied at home, while vibratory massage is given daily at the office, until the patient has complete restoration of usefulness. There comes to mind one case, when the man presenting himself for treatment was laughed at by the young medical assistant, but when examined later in the day by his principal he was found to have sustained partial rupture of the biceps muscle transversely, which laid him up for six weeks and resulted in an impairment of usefulness from which he never fully recovered.

Comminutions have really been considered under the head of lacerations, and they occur

so often in conjunction with the latter class of wounds that further space will not be devoted to them. It may be said, however, that they are the class of injuries that respond to moist dressings *often renewed*; also, that they must be carefully watched for gangrenous spots.

*Burns* are sustained by foundry-workers, from contact with hot and molten metal. These (if slight) are best dressed with some unguent that not only excludes the air, but will keep the tissues clean as well. A simple unguent for the purpose may be made by triturating boric acid with vaseline; mention should also be made of the preparation known as unguentine, which is deservedly popular. Burns produced by chemicals—strong acids and alkalis—are to be speedily neutralized. This usually is done at the scene of the accident, from the first-aid cabinet, but may well be repeated when the victim is seen at the office. Severe tissue-destructive burns are to be treated like any other open wound, free drainage being provided for.

Avulsions have already been considered, while dislocations and sprains may well give way to a consideration of surgical shock.

*Surgical shock* is seen more or less in every surgical case attended. The many theories of the causation of shock are important only in so far as they give us a foundation for intelligently treating the condition. For practical purposes, it may be considered a depressed condition of the entire system, supervening as the result of an impression produced upon the central nervous system—in our cases, by virtue of the incident injury and its sequelae. Thus, we may have shock as the result of a mental impression alone, owing to contemplation of the accidental injury; or, the cause may be solely the accidental injury; and, finally, hemorrhage, whether produced by injury or disease, may be the inciting cause.

In any event, our course is clear, and we may follow but one line of treatment—stimulation. This may take the form of hypodermics of glonoin, strychnine, sparteine, inhalation of aromatic spirit of ammonia or the internal administration thereof, warmth to the extremities, and elevation of the legs—any or all of these measures being entirely dependent upon the given surroundings and whether severe hemorrhage is present or not.

Hemorrhage is the first consideration and should be stopped at once, preferably by the application of forceps, if possible, or by means of the constrictor if forceps cannot be applied; the operative ligation being the very last resort, and then only under favorable sur-

roundings and after all other means have failed.

The administration of saline solution, injected into the rectum, intravenously, or under the skin of the abdominal region or back, is still a sheet-anchor, although it must largely be confined to the time when we can get our patient to the hospital and have the assistance of nurses and the more favorable surroundings.

#### Electrical Shock and Gas Poisoning

Electrical accidents are comparatively frequent and may well be briefly considered here. In these days of electrical power sent hundreds of miles from a central generating station and furnishing energy to industries of many varieties, it behooves us to know what to do and how to do it quickly.

If one sees a man writhing and jerking from contact with a "live" wire, it is well to know enough to prevent one from adding another victim in a vain attempt to rescue the first one. Do not be afraid to step in and grab the victim's clothing as long as your shoes rest on a dry surface and you do not grasp any metallic object, such as buttons, belt-buckle or tools. One may even throw down the coat to make a dry spot for the feet. Then, using preferably only one hand, give a sharp, quick pull to the victim's clothing and try to break his hold on the wire. Of course, you will send someone post-haste to the closest switch, to have the current shut off, should the attempt to disengage the man not prove successful.

When the contact is broken, lay the patient on the ground, face down, and establish artificial respiration, having an assistant give stimulating hypodermics at the same time. In producing this artificial respiration, the best method is to lay the patient face downward and, taking a position astride his hips, to make pressure over the lower ribs, with the arms held perfectly rigid. The number of respirations per minute may be timed by the breathing of the operator. This effort should be persisted in for at least two hours, and even longer if there seems to be any chance of establishing automatic breathing.

Rhythmic pressure upon the precordial region should also be tried, to help the heart's action, when necessary.

Electrical burns are to be treated the same as ordinary burns, remembering that they are very intractable and slow to heal.

#### Inhalation of Gas

Men working in and around gas-manufacturing plants are sometimes overcome by the

continued inhalation of the gas, the usual kind being an impure carbon monoxide. The first symptoms are, pain and weakness, these appearing first in the calves of the legs and later becoming general, to which are added dim vision and vertigo. The surgeon seldom encounters these symptoms, not being notified, usually, until complete unconsciousness has supervened. The condition, of course, is asphyxiation combined with carbon-monoxide poisoning, and the indications for treatment are, the securing of rapid, vigorous and thorough elimination. This object is accomplished by at once removing the patient to the open air and there starting artificial respiration. Oxygen gas should be at hand and be used freely; remembering that, whatever efforts are made to resuscitate, they must be carried on persistently for two or three hours, or even longer. Atropine, sparteine, strychnine, or glonoin should be given hypodermically, while the body of the patient is enveloped in a warm blanket, in order to conserve surface temperature.

Too much cannot be said regarding the senseless administration of whisky in emergency-cases. It has, unfortunately, passed from the position of a remedy to that of a habit, but one which thinking surgeons nowadays are very generally discountenancing; for, the fallacy involved in the "give him a drink of whisky" has been pretty thoroughly demonstrated and few, if any, corporation-surgeons now carry it in their emergency-bags.

#### Eye Injuries. Tetanus

In *eye injuries*, aside from the lodgment of foreign bodies on the surface, the careful surgeon promptly calls in the eye-specialist; for, it is in cases of this class that more trouble has developed than in all the rest. The sole aim and intention of our treatment must be to do the *best* that can be done, and no general surgeon, much less a general practitioner, should ever attempt to pass an opinion upon an injured eye, especially when the injury is of a lacerating or penetrating nature or when the history of the injury makes it possible that such may be the case. Sympathetic ophthalmitis is too terrible an enemy to be combated, except by one who possesses special training. It is, therefore, the part of wisdom to place a first-aid dressing over the injured eye and at once to take the patient to an eye-specialist.

When there is the least possible chance for the wound to have been infected with tetanus-germs, as in injuries to teamsters or woodworkers, an injection of 1500 units of

antitetanic serum should be given at once; the site of the injection chosen being over the nearest large nerve-tract in the immediate neighborhood of the wound. In making this injection, it is well to push the needle well into the deeper tissues, being especially careful to avoid making it merely subcutaneous. Recently a powder containing the desiccated tetanus-bacillus has been prepared, and European surgeons are using this to dress suspected gunshot wounds.

The statement has been authoritatively made that the percentage of accidents in America is much higher than in Europe (of course, this was before the present awful war, which establishes a new special record), but, whereas the author is not prepared to

dispute the statement so far as regards railway accidents—where distances from a thorough and well-supplied first-aid base are much greater than in Europe—yet, as regards civil accidents among industrial plants, the assertion is confidently made that we, in America, are ahead of our European brethren in organization, speed, transportation, and many other facilities for the care of casualties of the kind that occur in and around our big manufacturing plants; and any person disagreeing with this statement is earnestly requested to visit and inspect some of the wonderful hospital-plants now being maintained by many of the large corporations. It will prove an education in itself and will be well worth the time spent.

## Pruritus Ani and Pruritus Vulvi

By WILLIAM F. WAUGH, M. D., Muskegon, Michigan

HOWEVER it may be with you, my readers, I have always been as one of the blind men who laid hands on some part of the elephant. A striking case presents itself, or a spectacular recovery ensues, and I can not refrain from jumping at the conclusion that I have mastered that one particular malady. Is it not relatively true that we, all of us, generally form our conceptions of a disease from some single case that has impressed us profoundly?

A man walked into my office, laid a revolver down upon my table and said: "Unless you stop this damnable itching, I shall blow my brains out right here and now!"

### Pruritus Complicating Narcotic Cure

A physician applied to me for cure of the morphine-habit. Removing the drug, anal pruritus set in with fiendish intensity. Determined to overcome the seemingly trifling malady that threatened to demolish the cure of the habit, I set to work. A rather compendious library was ransacked and every prescription and suggestion was culled. I procured alleged remedies by the dozen, and tried out everything at all promising in sight. Absolute failure was my reward. Later, I had occasion to open this man's abdominal cavity, and I found the colon shrunk to the diameter of a lead-pencil, and along each side there was a row of little cavities, in each of which reposed a scybalum. The discharge from these pockets kept up the irritation that occasioned the itching. The lumps were

removed and the bowel was cleansed with a warm solution of zinc sulphocarbolate, and the anal itching ceased until there occurred a reaccumulation of the fecal concretions.

Naturally, I jumped at the conclusion that this form of pruritus ani was due to irritation from retained fecal masses, and I acted upon that assumption. I had quite a series of cases in which relief actually followed the complete emptying and disinfection of the lower bowel. Small enemas of the zinc-sulphocarbolate solution, 5 grains to the ounce, prevented the nocturnal attacks of anal itching, which, beginning the moment the patient warmed in bed for sleep, occasioned great distress.

Then the treatment failed in one case, and the spell was broken—failure became the rule. I had only grasped the elephant's tail—so like a rope!

Third case: An English authority recommended scratching in moderation, and this was repeated to a patient. He took it seriously, and scratched immoderately. The pruritus rapidly increased, and he scratched the harder; until he tore up the tissues and let the parasites in to the deeper layers; and the result was a series of tumors that extended into the scrotum and back to near the anus—four in number, spindle-shaped, soft, not very tender. One suppurated, and then another, discharging blood freely and pus scantily. The others resolved slowly, vestiges being still present after two months. The laboratory found only staphylococcus albus.

So I was driven back to the local applications that had failed so egregiously in my early encounters; but I retained the emptying and disinfecting of the lower bowels as a preliminary. But which local application?

If we are dealing with a local parasite, we want an effective germicide, and one that affects the deeper layers of the skin as well as the surface—one with some penetrating powers. Begin with iodine. Clear the bowels with a sulphocarbolate enema; washing the perineal surfaces well with the same after soap and water; dry carefully, then paint with undiluted tincture of iodine. Repeat every night just before going to bed. If pruritus sets in, get up and apply iodine again. But—refrain from scratching!

The patient reported that for the first few nights the iodine application acted much as the compound tincture of benzoin had done, but seemed to "take hold" rather better. Then the itching seemed to be less intense, and it did not need a second application of the iodine. Two weeks the treatment was continued, and every trace of the malady had disappeared. The induration of the skin was dissipated and all fissures had healed. Three months later, the patient reported that several times slight itching had occurred, but each time a single application of the iodine had quelled it.

At the suggestion of Dr. J. E. Frazier, of Endurance, Colorado, I have also applied camphor to the itching area and have found it exceedingly active and affording quick relief. Since then I have employed mixtures of tincture of iodine and spirit of camphor, with decided benefit, in old, indurated cases especially.

Looking over the recent literature of this affection, I observe that some of the surgeons sever the nerves supplying the pruriginous areas, while one recently recommends cutting off the arteries, to lessen the blood-supply. After burning away the surface with fuming

nitric acid and having the itching recur where the skin had been, one gets pessimistic as to such measures. At best, they are aimed at the symptom, and not at the cause.

By the combination-method herein described, we strike at all the known causes—irritation from rectal discharges, fissures and rhagades, local parasitism, and uncleanness. Naturally, if there is present any rectal affection, hemorrhoids, fistula, "pockets and papillæ," and the like, we must give those the requisite treatment.

My series of cases during the few months that this method has been operated is too small for any positive statement. I am merely describing my present treatment, in the hope that my confrères may give it a general trial, so that, by reporting their results, we may arrive at a fairly correct estimate of its value and applicability. If one hundred readers of CLINICAL MEDICINE try it out, we ought to get a better idea of its value than any one of us, singly, could give from his single experience.

Will you do this?

Pruritus vulvæ presents the same problem, but with even greater need of disinfecting the discharges from the rectum and vagina—the latter being prone to cause itching at about the menstrual period, especially. Sometimes it is not sufficient to apply our germicides to the vaginal tissues, the endometrium having to be treated, likewise, with silver or some iodine preparation. Still more effective is the application of a galvanic current from the negative pole, on a properly insulated electrode.

For the vaginal douche, the zinc-sulphocarbolate solution is amply effective—provided the salt is chemically pure. For our manufacturing chemists, I must bear this testimony—despite the interference occasioned by the great war, I have had no difficulty in securing pure drugs, although, of course, the price has mounted very high.

**S**O GREAT is the effect of cleanliness upon man that it extends even to his moral character. Virtue never dwelt long with filth; nor do I believe there ever was a person scrupulously attentive to cleanliness who was a consummate villain.—*Rumford.*



# Cystitis and Its Treatment

By GEORGE H. CANDLER, M. D., Chicago, Illinois

Author of "Everyday Diseases of Children"

[Continued from page 49, January Issue]

## The Clinical Picture

**T**HE symptoms of acute and chronic cystitis are to a certain extent similar. Frequent desire to urinate, pain in the region of the bladder, back and perineum, occasionally referred to the rectum, and pyuria, are present in practically every case. However, in some of the milder forms of chronic cystitis there is comparatively little pain, yet the constant desire to urinate, and the tenesmus accompanying the act, render the patient's life miserable. When retention is due to prostatic hypertrophy, the condition is particularly distressing and in a short time the patient, in sheer desperation, resorts to the use of the catheter.

In acute cystitis urgent desire to empty the bladder may be experienced as often as two or three times in each hour; and the more frequently the act is performed the more acute becomes the burning sensation, which is, of course, due to compression of the engorged vessels surrounding the sphincter vesicae. After each urination, cramp in this region may be severe enough to cause the patient to cry out or even faint. In the majority of cases, pain in the glans penis occurs during or independent of micturition; and, more rarely, constant distress in this region and through the corpora cavernosa is complained of.

The urine will be found concentrated, highly acid, as a rule, and it contains more or less pus, mucus, and epithelial debris. The pulse may be accelerated and the temperature elevated one or two degrees. In this connection, it is well to remember that fever is particularly likely to exist during an exacerbation of chronic cystitis, and in pericystitis. In the latter condition (which may follow a mild cystitis or vague abdominal or pelvic pain), there will be more or less suprapubic swelling corresponding to the shape of the bladder when full. Tenderness on pressure is pronounced and constant dull pain is experienced throughout the lower abdominal region. The patient loses appetite and strength and exhibits all the symptoms of pyemia.

## Perivesicular Inflammation

Unfortunately, perivesicular inflammation following or accompanying, as it may, trauma,

pelvic cellulitis, appendicitis, prostatitis, pyosalpinx, parametritis, and similar conditions, is not always readily recognized, and therefore the essential remedial procedure (suprapubic or perineal incision and free drainage) is not instituted until unnecessary damage has occurred to the tissues involved and the patient subjected to much needless suffering.

The physician should remember that whenever a swelling persists in the bladder region after that viscus has been emptied perivesical inflammation is reasonably certain. If in addition there is elevation of temperature, pain upon pressure, and more or less tenesmus, the diagnosis may be considered settled.

In the mild forms, it is true, resolution may occur and occasionally a fistula forms between the suppurating area and the bowel or bladder, this permitting the discharge of the pus. However, it may be regarded as axiomatic that the treatment of pericystitis is *surgical* and the sooner incision is resorted to the better the prognosis. It is, of course, unnecessary to add that the underlying causative condition must be discovered and, wherever possible, corrected.

## Treatment of Acute Cystitis

As has already been pointed out, treatment of acute cystitis, to be really effective, must be based upon an intelligent conception of the conditions present in the affected individual. In other words, one must not treat a disease-name, but rather such morbid processes as really exist at the time. In every instance, examine the urine *before* administering any medicine, and if there is reason to believe that the patient is taking home-made or other nostrums, order their discontinuance for forty-eight hours and then secure a sample of the urine.

In the interim, order a very light diet, prohibiting entirely all alcoholic beverages, coffee and tea, and instruct the patient to drink at least three pints of pure water or, better still, thin barley water, during each twenty-four hours. If the ordinary water supply is known to be poor and distilled water is available, order this used; under other circumstances, insist upon thorough boiling of all suspicious water. A properly prepared buttermilk may be used as a beverage, also skimmed milk or milk and lime water. Wherever possible, order the

ingestion with each draught of milk of a reasonably full dose of some virile and dependable preparation of the bacillus bulgaricus.

When the exact physical condition of the patient has been definitely ascertained, and the urine examined, the physician will be in a position to decide whether internal medication alone will suffice or whether local treatment is likewise necessary. He will *know*, also, whether the cystitis can reasonably be expected to yield to such treatment or whether it will require operative intervention. Should the latter be indicated, the patient should be placed in the best possible condition and presented to the surgeon at the earliest possible moment. Nothing, as a rule, can be gained by delay in these cases; in fact, usually too much time has been lost before the rational diagnosis can be arrived at.

#### Relief of Pain

Under ordinary circumstances, the first essential is to relieve the *pain*, and while many clinicians depend for this purpose almost entirely upon morphine, codeine, or chloral, the administration of more than one or two doses of these narcotics is decidedly unwise. In the acute exacerbations of chronic cystitis, particularly when the patient is advanced in years and has little or no resistance, it is a very easy matter to establish the opium habit; and, once the victim of an infected bladder realizes that relief from the terrific tenesmus and burning can be secured by the use of one or two little white tablets, he is reasonably certain to demand these—and get them.

Of course, cases occur where it is necessary to use morphine or codeine, but in every such instance the character of the drug should be withheld from the patient and the dosage kept as low as possible. I have found it desirable to alternate codeine, morphine, and hyoscyamine, giving each drug for twenty-four hours. In the great majority of instances, the well-known combination of hyoscyne, morphine, and cactoid can be used to advantage; the “modified” formula (hyoscyne hydrobromide, gr. 1-400; morphine hydrobromide, gr. 1-16; cactoid, gr. 1-128; pilocarpine hydrochloride, gr. 1-64, and caffeine, gr. 1-32), proving peculiarly efficacious. One such dose may be ordered every two, three, or four hours to effect, then less often. In the meantime, the physician will, of course, attempt to remove the abnormal conditions which cause the pain. In the most severe cases we may find it best to first administer

a hypodermic of morphine, thus convincing the sufferer that we do know how to give relief; the anodyne effect may then be maintained by the cautious internal use of the modified H-M-C formula.

#### Local Applications for Pain Relief

Under ordinary circumstances, however, the physician should proceed along the following lines: A copious enema of warm physiologic saline solution is administered with the patient in the lateroprono position, and immediately thereafter hot epsom-salt compresses are applied over the bladder. Occasionally a hot sitz bath may precede this step. To prepare the compresses, dissolve one ounce of magnesium sulphate in each quart of water and keep this solution as hot as is tolerable; saturate therein a large bath towel, folded so it will just cover the lower abdomen. The towel should be wrung out, before its application, and covered quickly when in place with a second *dry* towel. These compresses should be changed every fifteen minutes and the treatment continued for two hours.

Usually immense relief will be afforded by these applications, which may be made every night or even twice daily. During the acute stage the patient should remain in bed, but if up and about must on no account be allowed to get chilled or wet; neither should he exert himself physically until the inflammatory conditions are well under control.

After the initial enema, give calomel, gr. 1-6; podophyllin, gr. 1-6; and irisoid, gr. 1-6, half-hourly for four to six doses, and two hours after the last dose a copious laxative saline draught. Thereafter, order the laxative (preferably one containing lithia) once or twice daily, and every third night repeat the cathartic. If the urine is highly acid, prescribe hexamethylenamine, grs. 3 to 5; arbutin, gr. 1; and sodium benzoate, grs. 5, every three hours, with at least six ounces of thin barley water or other mucilaginous beverage. If the urine is alkaline, substitute ammonium benzoate or add acid sodium phosphate in place of the sodium benzoate. In severe infections, the dosage of arbutin may be increased to 2 or even 5 grains.

When hyoscyne or hyoscyamine is not being administered (as in the modified H-M-C formula), 1-1000 grain hyoscyamine sulphate may be given with 1-3 grain hamameloid and 1-3 grain eupurpuroid, every four hours.

This medication, modified somewhat, perhaps, to meet individual requirements, will prove promptly effective in the majority of

instances, but now and then we shall find it necessary to irrigate the bladder every second day—rarely oftener. After a somewhat extensive use of the various antiseptic agents recommended for irrigation, I now confine myself almost entirely to a mild boric-acid solution, followed by 1 to 1000 chinolol, or 2 percent ichthyol solution. If colon bacilli are abundant, I use physiologic salt solution with a recurrent catheter; then, when the bladder is thoroughly drained, close the outlet and slowly inject the contents of one ampule of *bulgarian bacillus bouillon*. I also order one-half ampule of this bouillon internally, twice daily, the first dose on awakening, and the second just before retiring at night, and likewise inject, every second or third day, one ampule of stock colon-bacillus or Van Cott combined bacterin. If the gonococcus is demonstrated, the gonococcus combined bacterin will be substituted; and the patient receives (in *alternation* with the hexamethylenamine and arbutin, and replacing the hamameloid, hyoscyamine and eupur-

puroid combination), calcium sulphide, gr. 1-3; camphor monobromated, gr. 1-3; hyoscyamine sulphate, gr. 1-3000; methylene blue, gr. 1-3.

If the pain is unusually severe and it is deemed inadvisable to administer morphine or codeine hypodermically, suppositories containing 1-8- to 1-4 grain each of morphine sulphate and extract of belladonna may be employed. Under such circumstances, the lower bowel should first be thoroughly flushed with normal saline as hot as can be tolerated. Very frequently such irrigation will entirely relieve the pain for several hours. *The less opiates we use in cystitis the better.* Chloral butyl hydrate is a reasonably satisfactory substitute.

When there is more or less proctitis, or merely extreme sensitiveness of the lower bowel, rectal injections of thymol iodide in purified cottonseed oil may be given after stool and on retiring. They nearly always afford great comfort and, in my opinion, euophen exerts a distinctly remedial influence.

[To be continued.]

## Postoperative Treatment

The Physician's Duty After the Operation

By C. W. CANAN, B. S., M. D., Orkney Springs, Virginia

MY SUBJECT, on first thought, may seem rather commonplace, but is, without doubt, one of much importance. The reputation of the surgeon as well as that of the attending physician many times hinges upon the treatment the patient receives after having been operated upon. But, even, to say nothing of these professional reputations, humanity demands that the patient be vouchsafed the very best chance possible for his or her recovery; yet, the result of many a brilliant operation is sadly marred by the absence of intelligent after-treatment. The present article is designed especially for the benefit of the country physician, inasmuch as many patients are turned over to the attending physician after they have been operated upon in the hospital of the smaller town or by a surgeon called to their homes.

As we all know too well, the college-professor and our textbooks go into minutest detail as to how to make the patient ready for an operation, but either tell us very little, if anything, as to how the patient should be managed after he leaves the operating-room. These authorities expect the prac-

titioner, irrespective of his lack of experience, to be guided by general principles—which is all right, of course, to a certain extent. Nevertheless, every one of us knows that it is careful attention to the minor details (that are ever cropping up), more than anything else, that enhances the patient's chance for recovery. And this is not at all strange when we remember how even the slightest infringement of the rules of antiseptic surgery may cause the death of the patient.

Owing to the limitation of space, it will be impossible to go into every detail of the after-management of the various operations; consequently only the most important ones will be chosen, and the most up-to-date treatment be described for each.

### The First Necessary Steps

Postoperative treatment begins as soon as the dressing is complete, and often even when the patient is still upon the operating-table and under the influence of the anesthetic. We refer here especially to lavage of the stomach. To our knowledge, there is no one measure that adds so much to the patient's comfort

as a thorough washing of the stomach. When the tube has been introduced into the stomach, warm water should be poured in and siphoned out again and again, until it returns clear and unstained. This procedure not only removes the contents of the stomach, but a goodly quantity of ether is eliminated at the same time. Then the patient is carried to the ready-prepared room and put to bed.

If the operation is one that is likely to cause much suffering, the patient may be given a narcotic tablet, because the result in many operations depends upon absolute quietude. A single bedstead of iron is always preferable; still, if such is not available (as is the case in many private homes), an ordinary wooden bedstead will do. Folding beds are never admissible. The bed should contain a hair mattress resting upon wire springs. Between the mattress and sheet a rubber sheet should be placed if there is likely to be much discharge or unconscious voiding of urine or feces; and in these cases a folded draw-sheet should be placed across the middle of the bed, this being easily removed without materially disturbing the patient. Folds in the sheets must be avoided, for they very quickly produce bedsores—a complication very liable to occur during prolonged decubitus. If at all permissible, the position of the patient should be frequently changed; while daily sponging with warm water, followed by a rub with alcohol, greatly aids in reducing the chance for this disagreeable complication.

If the operation has been at all prolonged, or if there are evidences of much shock, as soon as the patient has been placed in bed, he should be surrounded with hot-water-bags. However, the physician must see to this himself, unless a competent nurse is at hand; for, patients have been seriously burned by careless placing of these hot appliances. This is especially important while the patient is unconscious. I call to mind two patients who were thus severely burned. One was a child, who received a burn so severe that two toes had to be amputated. The other, a man, received a burn on his thigh, that caused a great deal of suffering and kept him in the hospital two weeks longer than otherwise necessary. Carelessness in this matter is certainly to be condemned.

#### Concerning the Patient's Position in Bed

Next, the position of the patient is very important, and it must be varied in accordance with the nature of the operation performed. Especially in operation for *appendi-*

*citis*, with rupture of the abscess, or for suppurative peritonitis, there is nothing so important in the aftertreatment as the position of the patient. The accepted position in this condition is known as the semiinclined; the head of the bed being raised enough so that it forms a slightly inclined plane; which is the most favorable position for thorough drainage of the abdominal cavity. A surgeon of one of the large hospitals told me recently that as long as they employed the horizontal position they lost from 75 to 80 percent of this class of patients, but that since adopting the inclined position the death rate had been reduced to 10 percent, and that these fatal cases represented principally patients who were moribund before the operation was performed.

Another very important procedure in these critical cases is, the use of physiologic salt solution. I do not refer to infusions made into the circulation—which are very important under certain conditions—but mean the introduction of the salt solution into the bowel by the drop-method; that is, the apparatus for this purpose should be so fixed that the fluid issues only drop by drop, so that the mucous membrane of the colon can absorb it as fast as it is introduced. This measure is important in all critical conditions in which the abdomen has been penetrated or opened.

After operations on *head, neck, and chest*, elevation of the upper part of the body is considered most favorable, barring one exception; this being laryngeal intubation. When this is performed, the head should be kept very low, in order to prevent "schluckpneumonia"—one of the most dangerous complications that can befall this class of patients.

The dorsal position is best suited after *laparotomies* or operations in the inguinal and perineal regions. The comfort of this class of patients can be greatly added to by instructing them to flex their thighs and then to place a pillow or some folded cloths underneath the knees. This class of patients often complain of the weight of the bedclothes, and this difficulty can be overcome by making a wire cradle and placing it so that it will keep the covering away from the abdomen.

After *amputation of a breast* the arm on that side should be fastened to the chest, in order to prevent moving of the pectoral muscles; these contractions otherwise causing unnecessary pain and interfering with the healing-process.

Before leaving this subject of position, I want to call attention to a complication that

sometimes occurs during a prolonged period of recumbency. I refer to *hypostatic pneumonia*, which is very liable to supervene in the aged when allowed to lie in one position for any great length of time.

#### Postoperative Vomiting

I have already referred to lavage of the stomach, immediately after the operation, for the purpose of preventing nausea and vomiting as a result of the anesthetic. While this procedure surpasses all others in preventing this trouble, there is still much to be done in certain cases to make the patient comfortable. If, after all, vomiting should continue, giving absolute rest to the stomach is our best remedial aid. We should not be influenced by the patient's begging for water, however great the thirst; for, the vomiting will continue. The patient must understand that the more water you give him, the more he will want and the oftener he will vomit. Cracked ice is often given, but this is like water—the relief is only transient—the stomach soon fills up, and the vomiting is repeated. Under these circumstances, hot water, given a spoonful at a time, is superior to crushed ice; still, if at all possible, the stomach should be kept completely empty, and vomiting will cease much the sooner for it. When, however, the thirst is very great and the vomiting persisting, an enema of hot physiologic salt solution is the best measure at our command to afford relief. A mustard-plaster placed over the middle of the stomach until the skin shows red is also beneficial in some instances.

#### Feeding the Patient

One of the most important duties in the whole field of postoperative management is, the feeding of the patient. The diet and the manner of feeding necessarily varies with the nature of the operation performed, but it is especially important after *laparotomies*, more especially operations on the gastrointestinal tract. Here, no feeding should be attempted by the stomach for four or five days, or even longer, according to the condition of the patient. We call to mind a case of gunshot wound of the stomach in which both walls of that organ were penetrated by a 44-caliber bullet, and in which instance feeding by the mouth was omitted for eleven days; and the patient recovered perfectly.

These patients should receive, every two or three hours, a nutrient enema composed of 2 drams of beef-juice and 4 ounces of peptonized milk. If stimulants are needed, 1-2 ounce of good whisky may be added. Should

the temperature exceed 102° F., 5 grains of quinine sulphate, rubbed up with the white of one egg, may also be added, and this continued until the temperature declines or there are manifestations of quininism. Should the bowel prove irritable or the pain be intolerable, opium or codeine may be added to the enema. The rectum should be washed out after every third or fourth nutrient enema. Under no circumstance should feeding of the mouth be thought of as long as the patient vomits, irrespective of the nature of the operation.

After *amputation of the tongue* or operation on the jaws, patients can be fed through the stomach-tube (which must be well oiled and carefully introduced); this being repeated three or four times every twenty-four hours. In *gastrostomies*, nourishment may be poured in through the gastric fistula. After intubation, it often becomes necessary to nourish the patient by introducing food through the nose. A Nelaton catheter is best for this purpose, attaching it to another tube. The catheter should be introduced through the lower nasal fossa and thence into the esophagus to the stomach. But very small quantities of nutrient should be introduced at a time. Beef-juice, milk, peptonized milk, and other liquid nutrient may be used in this way.

After *laparotomies* and especially after operations upon the genitourinary tract and rectum, the bladder must be emptied frequently by catheterizing. The bladder should never be allowed to go unemptied longer than eight hours, being sure to observe the strictest asepsis. In some instances, a self-retaining catheter will have to be employed; but, if possible, do not leave it in longer than forty-eight hours.

#### Important Symptoms After Operations

That we may better perform our duty to our patients in reference to after-treatment, we now will enumerate briefly some of the most important symptoms that occur after operation.

Vomiting has already been discussed. During the first twenty-four to forty hours after the operation, the temperature may rise until it reaches 102.5° F., but this should not be considered a cause for alarm, especially if thereafter it begins to decline. However, should it continue to rise, then the patient must be carefully examined for some possible complication. Often this febrile temperature is caused by absorption of toxic material, because the wound has not been duly dressed. Or, if there be a sudden rise of temperature



preceded by a chill, this is to be looked upon with grave suspicion, as presaging pneumonia or general sepsis. On the other hand, a rapid fall of the temperature below normal indicates secondary hemorrhage or shock.

A pulse of 100 should put us on our guard, while a rate of 120 is indicative of infection. A rapid, feeble or intermittent pulse points to secondary hemorrhage.

If much blood is lost, infusion of physiological salt solution should be resorted to; also the foot of the bed be raised. For support, hypodermics of whisky, digitalis, strophanthus, and strychnine should be given. Of these, strychnine, in doses of 1-60 to 1-30 of a grain, surpasses all the rest in restoring the heart's action after shock or hemorrhage. It should be administered every twenty or thirty minutes, until the pulse improves in strength and rhythm.

The control of serious secondary hemorrhage may necessitate the removal of the dressing, reopening the wound, finding the offending vessel and ligating it. When the artery or vein cannot be closed by ligature, the hemostatic forceps may be applied, and may have to be left in the wound for several hours.

One of the most frequent symptoms following an operation is pain, the intensity and duration will vary with the character of the operation; being generally more severe where the tissues have been badly lacerated. In cases where the pain continues or comes on a few days after operation, we should suspect infection. This may either be a superficial or a deep-stitch abscess or a sloughing of some part of the wound. Severe pain immediately after the operation is often due to too tight bandaging and will disappear at once when loosened. This is more often the case after laparotomies than after other operations. When it does become necessary to give something to relieve pain, morphine should be administered hypodermically.

A few lines on the indication for a change of dressing may here be added. Our experience has taught us that it is proper to dress a wound when there is some good reason for so doing. These reasons are generally the following: (1) Saturation of the dressing with abundant discharge; (2) soiling of the dressing by urine, vomit or feces; (3) the removal of stitches or drainage-tubes; (4) pain, if owing to pressure or if of a pulsating character; (5) when secondary hemorrhage has occurred; (6) fever, if it points to some wrong in the wound; (7) if the dressing has been disturbed by a restless patient.

Frequent dressing, unless there are positive indications therefor, is sure to retard the healing process and to give the patient unnecessary pain, to say nothing of the danger of infecting the wound. Strict antisepsis should be observed at each dressing, just as much so as before or during the operation.

When no complications occur after operation and when union takes place by first intention, the first indication for a change of dressing will be to remove the stitches. Between the fifth and eighth day this can be done. In plastic operations on the face, the stitches can be removed as early as the third or fourth day. After laparotomies, the superficial ones may be removed on the eighth day and the deeper ones on the tenth day.

In dressing wounds, keep in mind that stitch-abscesses may form because the suturing-material has not been thoroughly sterilized. If any of these are discovered, remove the sutures at once, because they will be of no further service, while constituting a source of discomfort to the patient, and they may spread the infection to deeper parts.

Operations on the perineum and cervix require the most careful after-treatment. Constipation should be avoided in these conditions, because of the tension produced upon the parts.

**I** DOUBT whether anything in the world can beautify a soul more spontaneously, more naturally, than the knowledge that somewhere in its neighborhood there exists a pure and noble being whom it can unreservedly love. When the soul has veritably drawn near to such a being, beauty is no longer a lovely, lifeless thing, that one exhibits to the stranger, for it suddenly takes unto itself an imperious existence, and its activity becomes so natural as to be henceforth irresistible. Wherefore, you will do well to think it over, for none are alone, and those who are good must watch.—*Maeterlinck*

# An Old Doctor's Life Story

An Autobiography

By ROBERT GRAY, M. D., Pichucalco, Mexico

*EDITORIAL NOTE.—Doctor Gray continues this remarkable story of his adventurous and useful career in Mexico. In view of present conditions in that country, the installment following will be found especially interesting.*

[Continued from page 54, January issue.]

## The Revolution Versus the United States

IT SEEMS to me well to give a bird's-eye view of internal Mexico, as we pass along over the mystic haunts of this enchanted land. The political involvement now pending between the United States and Mexico should make this Latin-American country and its people peculiarly interesting to Americans, even those who have no material interest here, but rather a prospect of sending some loved ones down, for their unburied bones to bleach, in the marshes and barrancas, beneath the vertical rays of this pitiless torrid sun, should the intervention, at this writing (July, 1915) being discussed with the A-B-C republics at Niagara not turn aside that impending menace. And you all may readily guess with what suspense of bated breath we people in these hamlets of the mountain-*vales* await tidings of that vital issue, while rebels hover, like the poison-breath of a pestilence, not far away, rushing out ever and anon, to pillage, and to murder those radically opposed to their pretensions, and seizing others, to be held for ransom. These brigands burned a rather populous town, 12 leagues from where I write, a few days ago, where a federal garrison had been stationed for a long time, contenting themselves with the pillage of the place and flogging those whom they most abhorred, instead of hanging them, as usual, and taking a few to hold for ransom. This is a life such as we also may reasonably expect to see some fine day.

I have very little sympathy with the American side of the pending conflict, knowing the sinister part American money played in initiating the Madero revolution. While the government and the people at large were not directly responsible, they had permitted the development of trusts more powerful than the government itself, whose sinister ramifications enabled them to cover up any transaction against the peace of this country. This fact, coupled with the conquest of Texas and the Mexican war which Texas developed, embittered all classes violently against the Americans and the government of the United

States; and this hatred was fanned by serial histories of Texas and the conquest appearing in the public press of this country, while still more intensified by inflammatory editorials and declamations and private discussions; and, the worst of all, it was all, surely, unvarnished truth. And right along, on top of all the old scores that had been partly healed and mostly forgotten, almost open facilities were constantly granted the rebels, and actively continued till very recently, if not up to this moment.

## Conditions Behind the Rebellion

The principle involved in the revolution may be right enough; were but the revolution supported by legitimate Mexico, and the course of the rebels not barbarously contrary to all law of civilized warfare and common humanity. The government of Madero was a fraud and a cheat, in such monstrous degree that those who made his revolution a success revolted against him, almost to the last man, ere his government was fairly on its feet. The counter-revolution against Madero was justified, from almost any political point of view. The disposition asserted to have been made of him, when a prisoner, is a somewhat delicate hypothesis—however, he never would have quit the country alive, under any state of circumstances. The inside facts of his death may ever remain shrouded in mystery; at any rate, the responsibility for it will be difficult to fix.

The revolted federal army was, at the time, the ruling power in Mexico, save where the rebels against Madero took issue against his vanquishers, so that the great majority of Mexicans had to support the new government, *nolens volens*. But the remarkable coincident was, that the conquerors of Madero had to wage war against those who were arrayed against him, not because he had been killed, perhaps, by a questionable method, but because they themselves desired to become masters of Mexico; patriotism with them was an absent principle.

The utopian ideal of a "liberal republic" in Mexico, with her antithetical conflicting elements and unscrupulous party leaders,

ever ready to embroil her anew in the anarchy of bloody antagonism, might as well be abandoned once for all by philanthropic peacemakers. A government for the people and by all the people of Mexico is an idle nightmare-dream, unattainable for many generations to come. What Mexico needs, and what the interested outside world should want, is, a government that can establish and firmly maintain the peace—not a task for the wearers of kid gloves.

Numerous doctors dream of blooming fortune leaping from practice down here—a delusion it were well for them to unteach themselves; for, American doctors who have not stood at their posts, through foul and fair of these dark and bloody times, will get the cold shoulder down here after the war is really over; and then the country will be so poor for a long while to come that the ration of the doctor will not be oversumptuous. Antagonism for Americans has never, at any time in the history of the two countries, been so intense as it is now. As I have been here for half a century and served alike the rich and the poor, caring for the sick and wounded federals as well as rebels who came to me, with the same scrupulous attention, without pay, I have not had the slightest other inconvenience to cross my pathway from either side, and little, if any, unpleasant tilts with private persons, amid all the vindictiveness felt here immediately after the occupation of Vera Cruz by American soldiers.

#### The Triumph of Rational, Positive Therapy

The most important monuments I have reared in vindication of the merit of modern rational medication—accessible to Americans—are the result of my work on two big American rubber-plantations, namely, the Santuario, in the state of Chiapas, and the Chicago, in the state of Tabasco—two death-holes for long years ere my little granules and tablets appeared, to cope with the angel of death.

I did not pass much time in personal attention in the Tabasco practice, but I elaborately and carefully instructed American intelligence what to do, and how; and the results, in establishing uniformly good health and, concomitantly, a low death rate, are too incredible to recount. However, I was at Santuario almost every day for a year and a half, till the conditions were such that there was nothing for a doctor to do there; and there has been no other doctor there since then—now three years—the health and the nominal death rate remaining unchanged. I have been there but once (for two hours) in

three years. There are, besides, several smaller native places that have adopted my system of medication exclusively, and some of which I have not visited in five years; nor has any other doctor been called to attend the people. Also, there are private families within a league of where I write who were calling me frequently ten years ago, but whom I never visit now, and am very rarely asked by them for any medicine for some trivial trouble.

Supported by the foregoing eventualities, I am satisfied that this most sickly belt on this continent might be converted into a state of healthfulness closely approximating that of the Blue Grass belt of Kentucky. There is an appalling average death rate in the district, mostly affecting vicious children, who die as the result of eating dirt, salt or tobacco, and whom no medication can cure. I do cure many by threatening to put them into the graveyard alive, even resorting to the extreme of sending a little coffin-like box to the house. If they can be frightened to abandon their vice, they become well and fat within three months, without other treatment; under which, moreover, they would die but the sooner if the vice were continued. But most of the parents of such children never say anything about the trouble until they are dead.

Many little children are killed by excessive doses of vermifuge, when they have fever, rarely a week passing that I am not asked for help in such cases; and I save many of those seen in time. Yet, that is the first thing done when a child falls ill with a dangerous fever, often as I have admonished everybody to let the worms rest till the fever-danger passes. Frequently they have no worms at all.

The death rate also is considerably augmented by the deaths of men in drunken broils; these nearly always being peons. Many persons gorge themselves with some imprudent food, such as cracklings or salt fish, or green fruit, this resulting in indigestion, congestion, a violent chill, and a fever that kills within a few minutes, even ere a doctor can be summoned. A man died thus only the other day within a hundred yards of my office, and ere his wife thought he was seriously ill.

#### My Efforts to Prevent Sickness

My sole aim, in this sickly belt—apart from treating the sick—throughout the last score of years of my practice has been, to improve the people's health, and it has been a dis-

couraging uphill task; yet, there has been substantial headway made.

The rubber-plantations are radically exceptional to family experiments, there being organization and discipline and administrative authority to enforce sanitary regulations on the plantations, the success of which was dependent on a high grade of average health. While the interest in establishing and maintaining family health should have been still more urgent, it was indifferently neglected in nine cases out of ten; maybe not entirely in any case, yet, to an extent that the care was too defective to be efficient. Possibly about one family in ten took a really strong interest, and then had the reward of escaping the annual taxation of big doctors' bills, such as they had been accustomed to pay.

The practical eradication of epidemic yellow-fever in Havana and Vera Cruz, and the almost normal healthfulness established on the line of the Panama Canal prove conclusively the possibility of extirpating the deadly malarial and pernicious fevers of tropical Mexico and the Latin Americas, as well as the backbone fevers of the Louisiana lowlands, under the rigorous supervision that secured such desirable results on the large scale just indicated. The task would be more herculean down here than in most other similar regions of the world, among a sparsely settled and imprudent people; yet, by no means impossible, when once put in vogue systematically, under the stern supervision of authority superior to the suasion of doctors.

#### Useful Concrete Water-Tanks

Galvanized iron roofs are becoming plentiful and steadily on the increase down here; while concrete building, that is now so extensively employed in the world, has simplified the question, long so difficult, of providing and keeping pure the potable water—a prime desideratum in the religion of health. The rain-water from such roofs is the purest in all the world. Concrete cisterns, covered with concrete lids, the water to enter from the roof through a fine strainer and the overflow covered with such strainer (to exclude insects) are practical, equal to jugs, and may be constructed of any desired capacity.

I have introduced the system here, having put one in connection with the roof and of a capacity of 1500 barrels. I built it round, making a mold of planks, in sections, adding two feet of wall at each pouring. I modified the standard proportions, in order to reduce the excessive quantity of cement and sand,

by adding stones, up to the size a man could conveniently handle. This I placed carefully into the mold, leaving a space between the stone and inside plank of some two inches, next carefully filled the vacant space with small stone, to the height of about a foot, then poured in liquid cement (2 1-2 parts sand and 1 part cement) until the stones were covered; then proceeded to fill in the other foot of the mold in the same way. After the concrete set, the form was raised. Thus, there remains an inward facing of two inches of pure concrete, and all the wall remains one solid stone, so perfectly the liquid cement permeates and fills the spaces between the stones. The wall is banded every foot with a 1-4-inch round steel rod, fastened in a species of steel ladder built into the wall, as it ascends, said ladder coming in sections, properly drilled for holding the rods. The rods should be covered with cement when the wall is finished.

Metal molds, 14 inches high, and metal roofs, constructed so as to receive the cement, used for building silos, but suitable for building cisterns, are listed in the big catalog of Montgomery Ward & Co. of Chicago. These are less expensive than lumber in America, and many different persons could use the same molds. I did not procure these, because of the heavy freight and duty. I refaced the wall inside with the cement and sand mortar, thus securing a perfectly smooth stone face. A pipe was built into the wall, at the bottom, to which water connections were attached. I put in piping to water a 2-acre garden.

For a long time I have furnished families all their drinking-water, where there was fever almost continually before, but where months have since passed without a single fever case, while the general health seems improved otherwise. I have the water in my house, kitchen and bath, from the tank pressure; quite a comfortable convenience.

Doctors and their patrons might benefit themselves from this expensive experience of mine (cement here costing \$7 gold a barrel, and sand, \$2 a barrel—comparatively cheap), where water is bad, as in many sections of the southern states. There is no longer any question about impure water being an element of infection; maybe we do not know even to what extent. A big family across the street from me has been in the house two years, and they never were without fever the first year. The last year all their drinking-water has been taken from my tank, and they had not more than four cases of fever not one of which continued three days.

# What Others are Doing

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## PITUITRIN FOR PROMOTING PARTURITION

E. Vogt, of Dresden (*Zeit. f. Geb. u. Gyn.*, Bd. 76; cf. *M. M. W.*, April 27, 1915), after a large clinical experience, maintains that there are no contraindications to the use of pituitrin in labor, not even the existence of nephritis, eclampsia or cardiac affections; none, except the one condition of a danger of rupturing of the womb, from forced contractions. Altogether, the author terms pituitrin "the best of all labor-pain incitants." He has found it particularly valuable in the presence of a narrow pelvis, and many a time it has rendered the forceps superfluous. Likewise pelvis-dilatation operations have lost much of their danger to the child. Hemorrhages before and after delivery are indications for pituitrin.

## BIOLOGIC DIAGNOSTIC TEST FOR SMALLPOX

G. Jochmann asserts (*Virch. Arch.*, Bd. 216, H. 3) that he considers the diagnosis of variola positively established if, two or three days after the serum from a suspicious pustule has been inoculated into the eye of a rabbit, Guarnieri's bodies can be demonstrated.

## OCCULT BLOOD AS A DIAGNOSTIC SIGN IN RENAL CALCULI

Eichhorst calls attention (*Zentbl. f. Inn. Med.*) to the importance of looking for occult blood (hemic pigment-cells—large round cells containing pigment) in the urinary sediment when suspecting the presence of calculi in the renal pelvis. These pigmented cells are transformed colorless cells.

## ALCOHOL INJECTIONS FOR PRURITUS ANI

Having observed the lasting benefit following injections of alcohol in persistent neuralgic conditions, Harvey B. Stone (*Md. Med. Jour.*, Aug., 1915, p. 202), has given alcohol a careful trial for pruritus ani. Alco-

hol, 70 percent, is injected, with an ordinary hypodermic syringe, well through the skin into the area to be treated, being deposited directly under the skin, until the entire affected area has been infiltrated. The needle is never plunged in deeply, on account of the danger of causing paralysis of the motor nerve and loss of sphincter control.

This method of treatment has been very successful in Doctor Stone's hands. The results are obtained quickly, no dressing, stitches or other postoperative annoyance are required, and the effects are likely to be enduringly satisfactory. The injection causes intense pain for one or two minutes only before sensation is lost, but this may be prevented by a light general anesthetic or by preceding the alcohol injection with that of some local anesthetic. No subsequent treatment is required.

## CONCERNING THE ETIOLOGY OF EDEMA IN NEPHRITIS

In opposition to the prevailing conception, according to which the edemas of nephritis rest upon an incapacity of the kidneys to separate the water, evidence is accumulating that at times extrarenal factors are the sole cause of fluid retention. The proof for this lies in the now sufficiently established fact that, in the presence of a nephritis, water drunken may be retained, while it is renally eliminated when introduced into the veins. The observations in this direction published by E. Magnus, of the Clinic of Wuerzburg (*Muench. Med. Woch.*, Sept. 22, 1914), as also those of Volhard, are of highest interest and carry conviction; and these, together with related ones, indubitably tend to demonstrate that certain particular functions of the kidney may be deranged, without affecting its activities as a whole.

In 1903 (and subsequently), Magnus points out, Gerhardts showed how in cases of acute (scarlatinal) nephritis sodium-chloride retention can be present, but, yet, this salt may promptly be eliminated when directly introduced into the circulation. Furthermore, Gerhardts demonstrated a divergence in



the time factor, in that the salt (ingested) retention lasted perhaps one or two days, while the albuminuria and cylinduria continued for weeks, with occasional nonrecession of increased residual nitrogen (rest-N) and abnormally diminished freezing-point, even though all uremic symptoms had disappeared for weeks.

Of still greater importance are more recent observations regarding the formation of edemas. A few years ago, von Nonnenbruch (*Arch. f. Klin. Med.*, 1913, p. 162) told of a case of edema when water excretion was intact; the underlying trouble, however, being decompensated heart action. Still, in another instance reported by Volhard ("Bright's Disease of the Kidney," Berlin, 1914), a similar condition directly involves the kidneys.

Edema, according to Volhard's views—based upon observations—is not a consequence of renally conditioned salt retention, but, rather, exclusively of a functional disturbance of the capillaries. Diminished ability of the kidneys to separate the water, this writer argues, merely leads to a retention of the fluid in the blood-vessels—intravascular water accumulation, or, a hydremia. On the other hand, edema is the result of extravascular water retention, the effusion of blood-water into areolar tissue. The demonstration of this is simple.

The patient drinks, at once, a large volume (say, 1 liter) of water. This failing of excretion, the kidneys may be at fault (intravascular retention); however, the fluid may, possibly, be retained somewhere else in the system and, thus, not get to the kidneys (extravascular retention). As a critical test, inject, at a subsequent time, a comparatively large volume (800 to 1000 Cc.) of physiologic salt solution into the veins, when it is sure to be carried directly and instantly to the kidneys.

This latter procedure definitely settles the point; for, if there is no renal insufficiency, urine soon will appear in proportionate amounts, thus disproving the accepted notion that nephritis necessarily makes the organs incapable of secreting. However, the kidneys may positively be incriminated only when results are negative after the introduction of water by both methods, by mouth and later intravenously.

So far the author's—Doctor Magnus'—review of the situation, but he also has instituted experiments of his own, leading to the same conclusions; one of these referring to a woman suffering from acute nephritis. And

the results are striking. Related in few words, the facts are these:

The patient was given 1 liter of tea to drink, at once. Of this amount of fluid, 290 Cc. was excreted by the kidneys in the course of six hours, having a specific gravity of 1014 and a sodium-chloride content of between 0.28 and 0.36 percent.

At the second trial, 800 Cc. of normal salt solution was injected intravenously, with the following result: Urine voided (time: from 1 p. m. to 6 p. m.): After 2 hours: Cc. 350—sp. gr. 1016—NaCl 0.55 percent. After 5 hours: Cc. 550—sp. gr. 1017—NaCl 0.58 percent. Thus, a total of 900 Cc. of urine was eliminated inside of five hours, as against less than 300 Cc. in six hours.

Still, while nephritic kidneys have been demonstrated not necessarily to be incapacitated for secreting urine in proper amounts, this condition must not be taken for granted; for, the author encountered one case, that of a woman afflicted with chronic nephritis, in which neither the introduction of water by mouth or intravenously caused increase in the amount of urine. Here, then, there was a positive renal insufficiency accompanying nephritis.

Doctor Magnus mentions another observation in this connection. In a woman suffering from contracted kidney, associated with a light diffuse skin edema, there occurred a mild conjunctivitis, and in conjunction with this the existing edema of the skin took on an inordinate character as to severity and extension, altogether disproportionate to the conjunctival inflammation. With the recession of the latter, the severe edema likewise went down again. Supposedly, the eye trouble incited the aggravated edema.

From all of which it appears—to repeat—that in dealing with nephritis one must also consider factors lying outside of those organs.

#### SOME NEW IODINE SYNTHETICS

Sanasclerose is being recommended by some German physicians as a desirable form for administering iodine, in arteriosclerosis particularly. The tablets contain (*Ther. Monatsh.*, 1913, No. 1) potassium iodide, lecithin, iron, and so-called tissue-salts.

Iodostarin (Roche) is recommended as a desirable substitute for the alkali iodides. Its advantages are claimed to consist in an absence of disagreeable taste, and particularly that its continued use does not lead, unless exceptionally, to the unpleasant phenomena of iodism.

Lipiodin, an organic iodine compound with a fatty body, presumably lecithin, is a new French synthetic, and is put out, with doctors' certificates (e. g., N. Ribollet, in *Jour. d. Med. Pract.*, 1912, No. 10), as a superior remedy in arteriosclerosis, exophthalmic goiter, actinomycosis, sporotrichosis, syphilis in its several stages, etc.

"Radioactive" iodomenthol is being highly praised by G. Dromard, Paris (*Zentralb. f. d. Gers. Ther.*, 1912, No. 30), in the psychoses of tuberculous patients, where there are gastric intolerance and pseudo pertussis attacks. Neisser and others express doubts as to the claims made for this new remedy.

#### CLASSIFICATION OF SAPONINS FROM THE CLINICAL STANDPOINT

According to that eminent pharmacologist, Professor Kobert, of Rostock (*Riedel's Archiv*, Mar., 1914), the principles known as saponins cannot be considered a strictly chemically allied group; inasmuch as some of them exhibit a neutral and others an acid reaction (to which, moreover, Heubner, of the *Therapeutische Monatshefte*, is inclined to add alkaline members, naming solanine); while holding that all of them being glucosides is not at all a certainty as yet.

However, the one characteristic joining all the saponins, so called, consists in their hemolytic property and peculiar action upon fishes.

#### TREATMENT OF SOME PHASES OF VENEREAL DISEASES

A. Blumenfeld tells of the successful management of certain phases of venereal diseases in the Austrian army in the field, from which (*Wien. Med. Woch.*, 1914, p. 2473) we briefly abstract his statements anent a few conditions. Incidentally, this Red Cross surgeon seems greatly enamored of aluminum acetate for a variety of external lesions.

Gonorrheal *epididymitis* the author combats with compresses wet with aluminum-acetate solution and the application of heat—for which purpose he employs sacks filled with hot sand. Occasionally heat cannot be borne, when ice generally proves grateful. As a rule, vaccine-therapy proves disappointing in this affection; however, it may be given a trial in otherwise obstinate cases.

*Inflamed prepuce*, in connection with gonorrhea, yields to embrocations with solution of aluminum acetate. At the same time, the penis is to be fixated upward against the

abdomen. The bandages are removed while the patient sleeps.

*Buboes*—inflamed inguinal glands—may, as a trial measure, be treated by applying hot-sand-bags. In place of lancing, when pus has formed, it may be aspirated with a hypodermic syringe.

*Ulcus molle*—soft chancre—is thoroughly irrigated with hot water, then swab with a glass rod dipped in pure carbolic acid, and wind up by covering with iodoform-gauze; the latter being changed three times a day. The more costly odorless substitutes for iodoform may be ignored.

*Gonorrheal joint affections* are amenable to vaccine-therapy (in fact, this absolutely is indicated), and without exception does good. As in the case of multiple folliculitis, Blumenfeld has recourse to the commercial polyvalent vaccines.

Without attempting an explanation of his observation, the author finds one single injection of a sufficiently large count to effect a cure; but, if this does not follow, then also a systematic vaccine-therapy will fail. While the dose he employs is determined by a given patient's condition of health, it ranges, ordinarily, somewhere between 2 and 3 cubic centimeters of his favorite polyvalent vaccine.

#### SULPHUR AS A PROTECTIVE AGAINST PEDICULI VESTIMENTI

During the past year, comparatively much space has been devoted to the subject of pediculosis, with special reference to the extermination of body-lice, and, yet, it is absolutely as nothing in comparison with the huge volume of the literature on this subject encountered in the medical and allied periodicals published in Germany and Austria-Hungary—not to mention the other belligerent nations. And, really, this problem of insect-pests is looming large in the domain of sanitation, since their agency as spreaders of disease is becoming more and more recognized. This knowledge already has greatly influenced medical practice, and our views regarding quarantining and the use of preventive disinfection, and further research promises almost completely to revolutionize the management of all zymotic diseases.

Naturally, the connection between typhus and recurrent fever and the body-louse has held the attention of medical men in the present war, with its unusual conditions; but, we here may deem that subject too remote for us to get interested in. This, though, is too narrow a view, for, the entire

problem is as yet an open one, nothing has been definitely settled, discoveries in one direction necessarily must affect research in other directions, while, moreover, no one can foretell what may befall ourselves with reference, in particular, to typhus fever. Hence, prolixity in this domain of parasiticides does not seem to call for any attempt at justification.

So, we find in the *Muenchener Medizinische Wochenschrift* for April 20, 1915, a supplementary note contributed by Geh. Sanitätsrat Dr. Eysell, head physician of the war-college at Kassel, in which precipitated sulphur is recommended as a *prophylactic* against body-lice. "Effective means for getting rid of body-lice," he writes, "we for long have known many, but (as I have said in previous essays as well as in my article, 'Die Krankheitserreger und Krankheitsuebertraeger Unter den Arthropoden,' in Mensel's 'Handbuch der Tropenkrankheiten,' 1913) reliable agents acting as protectives against lousiness we until now have had none." Having been generally misunderstood on the point of prophylaxis versus cure, and his advice having found little heed, Eysell once more repeats his contention, adding the warning that much depends upon a correct procedure.

To begin with, the material to be used is the precipitated sulphur, not the flowers of sulphur; and this because the latter is not a sufficiently fine powder, while the sharp crystals irritate the skin. On this score, an acquaintance suggested to the author the use of the extremely finely divided colloidal sulphur marketed as sulfidal; however, this was not any more effective, while its price virtually is prohibitive. And all that is necessary is, that the garments next the body are thoroughly impregnated with the sulphur powder. The reason for this procedure, and also why the use of, for instance, sulphur-unguents (which, besides, are filthy) will not serve, likewise is set forth by Doctor Eysell.

The habitat of the body-louse is not, regularly, the skin of the host, but, rather, it sojourns in the vestimental covering of the person, and, in order to feed, the parasite protrudes its proboscis, and thus sucks its blood-meal while safely ensconced between the threads where they cross each other in the weave. Hence, the systemic designation, *pediculus vestimenti*, and "Kleiderlaus" (garment-louse) in German. This fact, further, explains in part why they congregate largely in those spots where the garments fit the

body closely. The importance of vestimental coverings of the body to the wellbeing of this parasite is seen when we are told by Professor Zlatogoroff ("Pathologie und Therapie") that observation has revealed that typhus-fever never attacked the naked negroes carried on the slave-ships, although they were fully subject to the other prevalent maladies. This long before the modern scientific discovery of the reason why.

In practice, the body-garment is turned inside out, some of the precipitated sulphur is loosely, but liberally, sprinkled over a small smoothed-out area, and then the powder is evenly rubbed into the texture of the fabric. Proceeding thus from spot to spot, the entire garment is liberally impregnated with the pediculifuge. Or, a small bag, made of two thicknesses of mull, is half-filled with the sulphur, and then the garment is pounded with it—very evenly, of course—following this with the brush, if desired. Also, a good powder-blower may be made to answer. Of course, socks, abdominal band, and neckwear must be equally treated. Plainly, impregnation of outer garments is useless. Ordinarily, a well-applied loading of sulphur will last about four weeks, although in the case of sweaty persons the process may have to be repeated every two weeks.

It seems supererogatory to add that anybody about to enter an infected region should protect himself in this manner before nearing the same; and this should apply to satchel, trunk, and knapsack, and the like.

Maybe the same encasement might prove serviceable against fleas and even bedbugs. Sulphur is less undesirable than insect-powder and larkspur. Experiments in this line, whether successful or otherwise, should be reported for the benefit of the "family."

#### AROMATIC SACHETS AS A CURE FOR PEDICULOSIS

To revert once more to the "lively" subject of body-lice, about the simplest and very best measure for getting rid of these purveyors of deadly diseases is proposed by S. Gross—who, indeed, deserves a monument if his contention proves true. This physician, at a meeting of the Medical Society of Vienna, made the assertion (*Muench. Med. Woch.*, Apr. 20, 1915, p. 552) that, in order to get completely rid of these parasites, all that is necessary to do is, to wear an aromatic baglet on the chest and between the shoulders. The lice, he declared, quickly will desert the wearer, while the young ones hatched from

the nits in the clothing perish from starvation. The nature of the oils is not indicated, but, we now know that anise, fennel, and clove have proved most effective. A little doubt arises when one reads that the speaker has honored this pediculifuge with the baptismal name of "texan" (not with reference to Texan lynchings, but derived from Latin "texo," "textile"); also, that these oils are "fixated" by the admixture of resinous substances and others of the ketone and aldehyde group, which tend to reduce the tension, hence, volatility, of the ethereal oils. The body of texan is talcum powder.

At the same session, S. Fraenkel stated having, by accident, discovered the powerful pediculicide action of anisol (not anise-oil!), that is, methylphenyl-ether, a harmless substance obtained by methylizing phenol. It kills lice in ten minutes. However, B. Nocht and J. Halberkann have stated later that this substance leaves much to be desired and is excelled by the cheaper cresyl preparation.

The two authors last named (*loc. cit.*, No. 18), after carefully testing numerous methods, give the palm to p-dichlorbenzol, both for killing and keeping off lice. They put a Gram of it into little bags, left open, and distribute them in the bed, while the subject attaches them at various portions of the body—groins, armpits, neck, waist, and so on. It is promptly effective, while entirely harmless; but, being quite volatile, it must be renewed every few days. For bedding and clothing, they also use it in the form of a (very fine!) 10-percent spray, as follows: 10 Cc. dichlorbenzol, 43 Cc. burning-spirit, 43 Cc. carbon tetrachloride; 4 Grams green soap. The latter, to retard dissipation. It produces no unpleasant effect worth mentioning.

P-dichlorphenol ( $C_6H_4Cl_2$ ) is a volatile solid having a mild, not disagreeable odor, and has been exploited, under the name of "globole," as a moth-exterminator. It is at present quoted at 1.80 marks, in ordinary amounts. Nocht and Halberkann are in charge of the Institute for ship and tropical diseases at Hamburg.

#### ATROPINE-THERAPY IN VAGOTONIA

G. Lehmann, of the Virchow Hospital at Berlin, has been making observations in 100 cases of disturbances of the vegetative nervous system, testing the reaction to adrenalin, pilocarpine, and atropine, the results of which he has published in the *Zeitschrift fuer Klinische Medizin* (Bd. 81,

H. 1 u. 2, Cf. *Muench. Med. Woch.*, 1915, p. 440). One observation made is, that the young are more sensitive to pilocarpine and adrenalin, while older persons show greater susceptibility to atropine. Another noteworthy conclusion, therapeutically, is this: Atropine many times will fail in vagotonic subjects; nevertheless, improvement has followed in a sufficient number of such patients as to warrant a trial with this remedy in appropriate cases, and, if benefit is seen from its use, to institute a vigorous and prolonged atropine-therapy.

#### SIMPLE WAY OF PREPARING BLOOD-SERUM

Doctor Rosenthal, of the military hospital of Goettingen, obtains larger amounts of blood-serum for laboratory purposes by the following simple procedure (*Muench. Med. Woch.*, Jan. 5, p. 30): Set the freshly drawn blood for one hour in the refrigerator, then, with a sterile platinum wire loop loosen the blood-cake from the sides of the glass tube, so that the lump is freely movable as a whole; again place the test tube with contents into the refrigerator, and then the blood is ready for centrifuging.

#### PURPURA HEMORRHAGICA TREATED WITH EMETINE HYDROCHLORIDE

Another interesting use for emetine hydrochloride has been found in the treatment of purpura hemorrhagica. A case of this kind is described by James C. Cole and Percy L. Querens in *The New Orleans Medical and Surgical Journal*, January, 1916 (page 473). The patient was a farmer, 52 years of age, who entered the Charity Hospital, New Orleans, on September 11, complaining of bleeding from the gums and reddish-blue spots on the body. The family history was negative.

His illness began on September 7. While working in the field he became dizzy, but not unconscious. He thought he had some fever. The next morning he noticed a small red spot, about the size of a dime, on the left shoulder. During the succeeding two days he felt better, but on September 11 he noticed that the gums at the margin of the superior incisor teeth were red and blood was oozing from them. He consulted a dentist, who scraped the teeth, but the bleeding continued. Soon after, small reddish spots appeared on the right forearm, these turning to reddish-blue by midday. A little later,

as blood still oozed from the gums, the teeth were scraped again and an astringent applied, but the hemorrhage continued, and reddish spots appeared on the chest, abdomen, thighs, arms, and legs.

Upon examination at the hospital, the most striking feature was bleeding from the gingival margin, the ecchymotic area extending almost to the frenum. When the patient held his head in the right position, the blood would drip from his mouth into a basin at the rate of 40 drops per minute. The gums on both margins showed advanced pyorrhea, and on the right edge of the tongue, near the tip, there was a small ecchymotic spot, the size of a pea. Examination also showed a large number of bluish-red spots, irregular in shape, ranging from the size of a twenty-five-cent piece to that of a dollar, covering the chest and abdomen, while the arms and thighs were covered with purpuric spots of smaller size, and the forearms and legs showed numerous petechiae, pinhead in size and larger. The vital organs were found to be sound, and the urine negative, except for a few hyaline casts and red blood corpuscles.

Application of glycerite of tannin was made to the teeth, but without effect; then a 1 : 1000 solution of adrenalin chloride was substituted, which seemed to alleviate the condition slightly. Calcium lactate was given in 15-grain doses every four hours, but without effect. Thereupon emetine hydrochloride was administered intramuscularly, in a 1-2-grain dose. Almost immediately a hematoma formed at the site of puncture. The same result followed when it was injected into the other arm, eight hours later. The physicians now began intravenous administration of the emetine, 1-2 grain being given directly from the ampule, undiluted, into the median basilic vein. Only a slight ecchymotic spot formed at the site of puncture, and accordingly the injection was repeated six hours later.

The following day improvement was noticed in the condition of the gums, and the number of ecchymotic spots on the skin failed to increase. Accordingly, the drug was continued in the same dosage, twice daily, being injected intravenously alternately into the right and left arm. This treatment was continued until ten doses were given.

Improvement seemed to be almost immediate. The disease ceased to spread; the patient's general condition improved; he felt better, and at the discontinuance of the treatment all symptoms had absolutely disappeared, so that on September 21, 10 days

after admission, the patient was able to leave the hospital, showing no signs of the original condition, while the pyorrhea manifest on entrance appeared very much improved. After the second day the temperature did not rise above 98.4° F. and the pulse 86.

#### ARREST OR PREVENTION OF GANGRENE OF FROZEN OR CRUSHED FEET

Gangrene (mortification, necrosis, death of the tissues) is a direct result of a failure of nutrition, following obstruction of regular blood supply. One instance of this is seen in crushed hands and feet, where the digits may be hanging on by only a strip of vitalized flesh. A very successful procedure for preventing traumatic gangrene under such circumstances was introduced a few years ago by Noesske (*Muench. Med. Woch.*, 1909, p. 2419), who relieved the stasis and restored circulation by incising the tips of the fingers or toes.

Now, since frozen feet and hands were of such frequent occurrence among the European armies last winter, the idea came to at least two physicians serving in German field lazareths to apply Noesske's approved treatment in cases of that nature; and it so happens that reports on these experiments appear side by side in the *Muenchener Medizinische Wochenschrift* (Prof. Arnold Witte and Dr. Eduard Bundschuh, 1915, p. 416), the results in both hospitals having proved eminently satisfactory. A reference to these articles seems opportune.

Noesske's procedure for preventing traumatic necrosis of the nature referred to consists in making an incision, parallel with the nail and down to the bone, clear across the finger-tip, that is to say, and to the width of the terminal phalanx; also, similar slits up to 1 cm. in length are—or may be—made lengthwise on the sides of the digit. The idea is, that, the clogged obstructing veins now being out of the way, the centrifugal pressure in the arteries can then force fresh blood into and through the parts—the vivifying, nutrient blood current finding an escape out of the severed arterioles (bleeding).

Now, in the case of frozen (third degree) feet and hands, it is reasoned, the cyanotic discoloration occurs because the veins no longer carry away the devitalized blood, although for a while arterial blood continues to be pumped into the parts. In consequence, the parts become distended, and at last the arrested arterial blood also becomes



venous; whereupon, circulation having ceased, the tissues begin to die off.

However, the latter disaster—mortification—can be obviated if, as above indicated, the stasis in the terminal arteries and arterioles is relieved by affording the opportunity for the vitiated blood to be forced out and fresh fluid to flow through and nourish, and thus to keep alive, the tissues. From this, it is plain that the operation must be performed at the earliest possible moment, if it is to be crowned with success. These incisions, it hardly need be mentioned, cause no pain; hence, anesthetic measures are not called for.

As a rule, blood will not issue immediately after the incision has been made, at most "a droplet of dark fluid oozing out"; although, when the accident is of very recent occurrence, a little venous blood may, possibly, start to ooze out pretty soon, which then will grow in volume and eventually become arterial. However, Doctor Bundschuh states, this will happen only in superficial and absolutely fresh cases of freezing. Moreover, in one instance, that writer believes, restoration of the circulation was accelerated by massage of the frozen finger from the knuckle toward the tip. When, however, hours have passed—as mostly happens—stasis is complete and no blood whatever will come from the wound: then further measures must be adopted.

Under these circumstances, in order to prevent drying, with consequent closing up, of the wound surfaces, Bundschuh inserts tampons of gauze saturated with sterile oil (preferably camphorated), and then proceeds to draw the blood by means of suction. For the latter purpose, he employs finger-suction-cups or, when more than one finger is involved, a hand-suction-bell, applying not too great pressure. After from five to fifteen minutes—if the operation is successful—the tamponed wounds may be expected to begin to show a little dark blood, which, under continued suction, increases in amount and has a brighter hue; and, slowly, the cyanotic member assumes a more pinkish color. If now the suction-cup is removed, the bluish hue of the member is likely to reappear; nevertheless, the wound will continue to bleed slowly.

In like manner, each digit is treated in turn, while the suction-cups are to be re-applied as often as seems advisable, and on successive days for as long as need be. Of course, the oily tampons are renewed whenever necessary. Then, when gangrene thus

was shown to have been averted, sometimes the members were bathed in lukewarm water, which favored bleeding, but less profuse than did the cupping.

The same author did not always consider it imperative to cut to the bone when the damage was a superficial one, often more superficial incisions sufficing; still, in the more threatened finger-tips, deep incisions always are advisable. Obviously, he adds, these tamponed cuts across the finger-tips leave disagreeable scars; still, a person rather will take these blemishes into the bargain than lose his fingers or toes. Under his supervision, totally necrotic digits were severed only when demarcation had become fully established.

Bundschuh supplies no statistics; Wittek, though, gives these figures for the *étape* hospital under his charge: total of men treated who had some member frozen, 434; namely: frozen feet, 412; frozen hands, 9; hands and feet, both, frozen, 12; frozen ear, 1. While here we find mention of one instance of frozen nose (although no statement as to outcome is made), the other author encountered neither frozen noses nor ears, but, still, expresses full confidence in the value of his method of treatment.

As to details, beyond the cutting, Wittek does not mention either suction or warm bathing; in fact, says nothing about the difficulty in establishing flow of blood from the wound; but, he does say that directly after making the incision he applied collargol and, after the third day, some "indifferent" unguent—the text leaving to infer that he did nothing else. Possibly his cases principally were of a mild type, but, also, his complete successes seem to have been fewer, as indicated by the amputations.

Wittek also followed Noesske's method, but, in addition, made from 2 to 4 longitudinal incisions on the top of the foot, from the proximal limit of the discolored skin up to the basis of the toes. Sometimes he cuts similarly along the plantar aspect. The beneficial effect, he relates, became evident within twenty-four hours; the bluish-green discoloration and "glassy-cloudy" infiltration of the foot disappearing and the already indicated zone of demarcation moving distally toward the toes. Not once did it become necessary to amputate higher up than at the middle of the metatarsi, and then only twice in extreme cases. In the others, only toes, in part or wholly, were lost.

Various individual deviations from these types need not here be repeated. On the

whole, phlegmonous complications never occurred; victims brought in in a fevered state quickly became defevered, the necrotic auto-amputations leave a smooth, healthy, remarkably small granulating surface, and, altogether, this new method of treating frozen feet and hands has proven a preventive of many otherwise deplorable mutilations.

#### INTRAVENOUS INJECTIONS OF DIPHTHERIA-ANTITOXIN PREFERABLE

As theoretically probable and actually recommended by Rausch, more certain and rapid results are obtained from the administration of antitoxin-serum, for the cure of diphtheria, by injecting it directly into the veins, instead of intramuscularly, as is customary. This assertion is made (*Jahrb. f. Kinderh.*, Bd. 80, H. 3; cf. *Muench. Med. Woch.*, Jan. 5), by K. Alber, of the Hospital for Children at Bremen. Park of New York, holds the same opinion.

#### CHARACTERISTICS OF MYASTHENIA

Myasthenia gravis pseudoparalytica, also known as asthenic (bulbar), paralysis, is a still unexplained peculiar intense muscular debility attacking, more or less acutely chiefly young persons, and the clinical picture of which is referred to as the Erb-Goldflamm symptom-complex. While the affection is somewhat rare, the description of a striking case may be of interest. The patient in question was presented before the Medical Society of Erlangen by Doctor Koeniger, whose remarks we abstract from the *Muenchener Medizinische Wochenschrift*, 1914, page 2314. The subject is the 20-year-old daughter of a laborer.

Some fifteen months before, the young woman observed a slowly progressive tendency of her upper eyelids to droop, and gradually this muscular relaxation extended to arms and legs. Eventually there was developed decided palpebral ptosis, external ophthalmoplegia, and a masklike rigidity of the facial muscles; also, the muscles of the trunk, limbs, and (particularly) neck, shoulders, hips became very quickly exhausted, while the diaphragmatic and intercostal muscles exhibit a continuous highgrade weakness.

Early in the day, the patient is capable of walking alone and raising her arms, but fatigued rapidly, and after slight exertion it advances and attains to complete paralysis-like relaxation of all the muscles.

In the face of this severe condition, there is observable no atrophy, no degeneracy-reaction, no disturbance of sensation, no pain; further, there is present no hypertonia, and reflexes of the skin, mucosas, bladder, and rectum are normal, although occasionally the Babinski toe-reflex is elicited.

Before the attack and in its first stages, the patient knew of no nervous disturbances, but from early childhood up to her fifteenth year she was troubled with cough and oppressed breathing, these attacks occurring [in puberty?] quite regularly every four weeks, and then for a few days running would cause aggravation. The author surmises thymic asthma. Catamenia appeared for the first time in her nineteenth year, then did not again show for a year; since then, though, have been fairly regular.

The blood exhibits a mild lymphocytosis. A diseased state of the endocrine glands cannot be demonstrated clinically, especially do we possess no certain sign for thymic enlargement. For all that, the author is convinced of a definite correlation subsisting between myasthenia and the internally secreting glands, in particular, the thymus and the parathyroid bodies.

Unfortunately, precisely with reference to the thymus the Abderhalden reaction is as yet inapplicable. Still, it is noteworthy that, after subjecting the thymus of this patient to the influence of the Roentgen-rays, a marked improvement of the myasthenic symptoms could be recorded.

Electrical treatment produces an intense myasthenic condition; however, in the author's opinion, this differs merely quantitatively from the fatigue-reactions occurring in other persons, especially the juvenile forms of "nervous" asthenia. Yet, this very fact may aid in tracing the etiology of myasthenia.

#### MILK AS A SOLVENT FOR SODIUM CHLORIDE

According to Stewart (*Amer. Med.*, Aug., p. 622), when normal saline solution is indicated and proctoclysis is to be applied by Murphy's drop-method, the ideal solvent for the sodium chloride will be found to be milk rather than water. Not only is the salted milk more readily retained within the rectum than the aqueous solution, but it has a very decided antihemorrhagic action, owing to its power of increasing coagulability. In bad cardiac conditions particularly, when hemorrhage is to be avoided, very happy results

frequently are obtained by the injection of a quart of salted milk into the lower bowel.

#### THE CAUSES OF INDIGESTION

A very interesting study of the histories of 1000 consecutive patients who presented themselves for the relief of chronic or recurring indigestion was submitted by Douglas Vanderhoof in *The Bulletin of the Johns Hopkins Hospital* for May (p. 151). This report embraces only patients whose chief complaint was of some disturbance of digestion. Each of these patients was carefully studied, the history of his complaint secured, and a complete physical examination and the necessary laboratory analyses were made.

The table prepared by Doctor Vanderhoof shows the causes of indigestion to be about as follows: appendicitis, 24.6 percent; cholecystitis, 11.7 percent; various neuroses, 10.1 percent; cancer of the stomach and intestine, 5 percent; chronic gastritis, 3.6 percent; affections of the kidney, 7.1 percent; of the lungs, 2.8 percent; of the heart, 2.3 percent; of the eyes, 2 percent; visceral ptosis, 3.4 percent.

The most striking fact evidenced was the large percentage of cases in which two surgical diseases, appendicitis and cholecystitis, were the underlying causes of the indigestion, and the small percentage of those in whom actual disease or disorder of the stomach was found to be present.

#### SURGICAL OPERATIONS IN CARDIAC CASES: SOME SUGGESTIONS

When it is necessary to operate upon patients suffering from a cardiac defect, the greatest complication to be feared, remarks Douglas H. Stewart (*Amer. Med.*, Aug., p. 622), is syncope. Consequently, the physician should be prepared to forestall fainting under such circumstances, Doctor Stewart lays special stress upon the importance of maintaining the respiratory function at its full capacity. As he points out, the heart is only part of the circulatory mechanism, the lungs being of equal importance with the heart.

Interference with respiration is one of the things to be considered first as a possible complication when making unusual demands upon a badly damaged heart. This interference begins at the nostril, which is the true intake for the air. To keep the nostril readily permeable, Stewart suggests the use of a few drops of adrenalin-solution, because of its

power of contracting congested mucous membrane; and he adds that it is a pleasant surprise to see the improvement in the color of the face and the character of the pulse following the application of this simple expedient.

The adrenalin may readily be applied by the anesthetist with a dropper or swab. Sometimes it is desirable to free the nostril by the application of cocaine, before the operation, maintaining action by means of an antipyrin-solution.

#### ON THE ABSORPTION OF BACTERIAL TOXINS

R. Kraus and B. Barbara, of Buenos Aires, have been conducting several series of experiments with animal charcoal as a remedy in various zymotic diseases, notably diphtheria, tetanus, and rabies. They have demonstrated (*Deut. Med. Woch.*, 1915, No. 14) that this agent acts by absorbing the toxins engendered by the pathogenic bacteria; hence, its remedial value, as proven, in cholera and dysentery.

#### DAKIN'S CALCIUM HYPOCHLORITE SOLUTION

Since publishing the formula used by Carrel and Dakin, as well as by others, for the manufacture of sodium-hypochlorite solution, we have received from some of our subscribers inquiries as to how this preparation is made. For this reason, we reprint herewith the directions given by Dakin for the preparation of this solution:

140 Grams of dry sodium carbonate or 400 Grams of the salt in clear crystals (washing-soda) is dissolved in 10 liters of water, and then 200 Grams of perfectly dry chlorinated lime (improperly called chloride of lime) of full standard quality is added. (Only that sold in sealed cans should be chosen.) The mixture is well shaken, and after half an hour the clear supernatant liquid is siphoned off from the precipitated calcium carbonate and filtered through a plug of absorbent cotton. In the clear filtrate, 40 Grams of boric acid is dissolved, when the resulting filtrate is ready for use. A slight additional precipitate of calcium salts may occur slowly, but this is of no significance. This solution should not be kept longer than one week, at the most, since it rapidly deteriorates.

Already ready-made preparations of this antiseptic solution (or at least a very similar

one) are being offered for sale in England. No doubt American manufacturers will put something of the kind upon the market before very long.

#### NITROUS OXIDE THE SAFEST VOLATILE ANESTHETIC

There is no longer any question, if Dr. Charles S. Skaggs is right—as set forth in his paper in *The Lancet-Clinic* for September 18, 1915, page 247—that nitrous oxide, when administered in association with oxygen, is the safest of our volatile anesthetics, provided it is given by an experienced anesthetist. Doctor Skaggs does not mean to imply that nitrous oxide is the anesthetic of choice for all operations, but he does believe that with this agent the patient can thus, for a short period of time, be anesthetized with less danger.

Ether, declares Doctor Skaggs, is contraindicated as an anesthetic for tuberculosis patients; indeed, patients suffering from organic diseases of the lungs and kidneys, as well as from severe suppurative conditions, asthma, empyema or diabetes, frequently do not respond well to ether or chloroform. Nitrous oxide and oxygen, on the contrary, can be used in conditions like those named, with comparative safety.

#### TREATMENT OF BOILS AMONG THE SOLDIERS

That distinguished dermatologist, Unna, has been contributing, under the title of "War Aphorisms of a Dermatologist," a series of short articles to the *Berliner Klinische Wochenschrift*. Some of the suggestions are of interest to American physicians engaged in civil practice: for instance, the following on the treatment of furunculosis.

Since baths and soap and most of the approved methods of treatment of boils are out of the question in the field, Unna recommends, emphatically, cauterization of all individual furuncles. When this is not practicable, he suggests the application of a paste consisting of ichthyol, kaolin, and glycerin (in the proportion of 10, 20, and 5) and covering with an impermeable dressing. When this plasma is not at hand or there is much irritation, a paste containing sulphur, zinc [oxide or carbonate?—Ed.], calcium carbonate, and glycerin may be substituted. Soft mercurial plaster also gives good results.

Speaking of the individual boil, Unna advises opening with a perpendicular stab into

the center of the furuncle, remembering that the lesion has been caused by the penetration of cocci into the hair-follicle. For this purpose, he recommends his "micro-brenner" (evidently a very small electric-needle cautery) as the best instrument to use; next, the finest point of the Paquelin cautery or a sharply pointed steel needle that has been passed through the flame of a spirit-lamp. Treated in this manner, the pain and tension cease at once, and the part should become painless to pressure.

The advantage of this method of treatment over the old-fashioned crucial incision is, that the foci of the cocci are disinfected *in situ*, these alone being destroyed, and not also the contiguous skin.

#### NASCENT-IODINE TREATMENT OF X-RAY-ULCERS

Doctor Bogrow, of the Dermatologic Clinic at Moscow (*Arch. f. Derm.*; cf. *Ther. Monatsh.*, 1914, p. 667), has adapted, in a case of a severe x-ray-ulcer, Pfannstiel's treatment for lesions of the mucosa, the result of x-radiation. The principle is, to load up the system with an alkali iodide and then applying hydrogen-dioxide solution to the lesion; whereupon the iodide in the secretion is decomposed, with the liberation of iodine, which then acts upon the tissues in its nascent state.

Bogrow gave his patient 6 Grams of sodium iodide per day (6 tablespoonfuls of a 5-percent solution), and covered the ulcer with a compress of gauze which was constantly kept wet with a 3-percent solution of hydrogen dioxide containing 1 percent of acetic acid. The sore healed nicely.

#### THE TREATMENT OF CHRONIC INTES-TINAL STASIS

In view of the recognition of the importance of intestinal stasis in the production of disease and disease-symptoms, it is desirable to keep in mind the most striking and important of its clinical symptoms in a typical case; and these we find epitomized by William Seaman Bainbridge, in a paper appearing in *The Lancet* (Oct. 2, 1915, p. 739), in the following manner:

1. Pain or discomfort, usually referred to the region of the duodenum and stomach, but also to portions of the large intestine.

2. Gastric discomfort, nausea, and occasional vomiting, these resulting from obstruction to the outlet of the stomach in conse-

quence of ulcer or cicatrization of the pylorus or duodenum, or constricting bands about the duodenum, in the neighborhood of the pylorus. These symptoms may be classed under the ordinary category of "indigestion."

3. Various symptoms which may be cataloged under the term "autointoxication", which Lane has described as "flooding the liver with a quantity of toxic material picked up from the stomach, duodenum, and small intestine, in excess of what the liver, kidneys, and skin are able to deal with." These vary according to the susceptibility of the individual.

Under this head of intestinal stasis may be grouped a most important set of individual symptoms and physical signs; among them the following: Blotchy appearance of the skin, which is cold and clammy, especially over the extremities; cold perspiration, which exhales an offensive odor; loss of fat; lumpy condition of the female breast; thyroidism, sometimes; tenderness over the ileum; mental torpor—in fact, the entire symptomatology generally described under the head of autointoxication. Headache, melancholia, inability to sleep, and sleep disturbed by unpleasant dreams also come under this general classification of the symptoms of the condition in question.

4. Constipation, in the majority of cases; although this symptom sometimes is replaced by attacks of diarrhea. In one instance reported by Doctor Bainbridge, looseness of the bowels was persistent and distressing and could not be controlled by any of the customary means.

Doctor Bainbridge is of opinion that patients who present a sufficient number of the signs and symptoms enumerated may tentatively be considered as suffering from chronic intestinal stasis. However, a Wassermann test should be made wherever there is a possibility of syphilis being present.

Doctor Bainbridge, being a surgeon, naturally advises resort to the knife whenever the diagnosis is unquestioned. On the other hand, our own advice would be, to exhaust every possibility of medical treatment before sending any patient suffering from these symptoms to the operating-room. There obtains in the profession a growing belief, well expressed by Paul G. Woolley in a paper contributed to *The Journal of Laboratory and Clinical Medicine* for October, 1915 (p. 45), that "the surgical operation for intestinal stasis is not justified except as a last resort." Woolley further adds: "There is no definite information in the literature to

show that surgical procedures, made for intestinal stasis, have been more successful than medical ones." Anthony Bassler strikes the same note in *The New York Medical Journal*. See editorial, this issue.

Many times relief can be secured through the use of mineral oil and a properly regulated low-protein diet. Many of these patients do well upon Bulgarian-bacillus preparations.

#### THE TREATMENT OF TETANUS

Tetanus is one of the serious medical problems of this war in Europe. This disease and gas-gangrene are the most dreaded of the wound complications; but the military surgeons are having such a large practical experience with these two terrible diseases that they should eventually be able to throw considerable light upon their adequate treatment. Thus, we find in the October 23 (1915) number of *The Lancet* a paper upon the subject of tetanus contributed by Sir David Bruce, surgeon-general in the British army medical service. Most of the cases he saw occurred during September, October, and November of 1914. There were a considerable number of cases in the months of April and May, but only very few in June and July, 1915.

The average length of time between receiving the wound and the setting in of tetanus-symptoms was ten days. The cases having a short period of incubation were more fatal than those of a longer incubation-time. Thus, in those patients showing a period of from eleven to twenty-five days before the appearance of symptoms, the mortality was only 39 percent, as compared with 66.6 percent in those in whom symptoms appeared within ten days. Among 231 cases reported, the mortality was 57.7 percent.

Antitetanic serum has not proven markedly effective; still, Bruce believes it the best remedy we have; while, according to him, there is no evidence that any benefit has accrued from carbolic-acid or magnesium-sulphate injections.

He sums up the treatment of tetanus as follows:

1. Place the patient in a quiet, darkened room, under the care of a sympathetic and capable nurse.

2. The wound should receive the best possible surgical treatment, so as to insure the prompt and complete removal of all septic products.



3. The intrathecal injection (that is, injection into the nerve-sheath) of at least 3000 units of antitetanic serum should be the treatment of choice. At the same time 10,000 to 20,000 units should be injected intravenously and subcutaneously. This procedure is to be repeated as many times as the course of the disease seems to demand.

4. Patients should also receive sedative drugs, notably chloral or chloretone, these to be given in full doses.

#### SOME INTERESTING EXPERIENCES WITH AMEBIC DYSENTERY

How large a percentage of the cases of amebic dysentery treated with emetine are permanently cured? What are the causes of relapses, and how may they be prevented? These are some of the questions raised by Nathan Barlow, in *The New York Medical Journal* (Oct. 23, 1915), who has treated more than 300 cases of this form of dysentery with emetine in Honduras, and observed it clinically in the Charity Hospital at New Orleans. Of the large number of cases attended, however, only 58 are found suitable for tabulation. From these, Barlow draws the following conclusions:

The percentage of complete cures is much greater in mild or moderate cases than in the severe ones. In the latter, there is severe ulceration of the intestine, which affords harboring-places for the parasites, while insufficient circulation prevents their being reached by the emetine. However, while there is a very high percentage of relapses in these severe cases, after a second course of treatment with the emetine, the percentage of cures becomes high, as a result of the improvement in the condition of the mucous membrane of the bowel.

If the course of treatment with emetine is a short one, the percentage of relapses is high. Therefore, Barlow insists that every patient should receive at least 1 grain of emetine daily for not less than ten days. If so treated, 80 percent remain free from relapse for seven months or longer. The course of the emetine should not be continued longer than from two to four weeks. If used longer, both emetine and ipecac are liable to cause irritation of the bowel, thus aggravating and prolonging the dysentery. Doctor Barlow prefers to inject the 1-grain daily dose at one time.

Cases of hepatitis and liver abscess usually remain free from either intestinal or hepatic relapse, partly on account of the more frequent treatment they receive.

The bowels should not be flushed too frequently. It seems wise, however, to clean out the canal at the beginning of treatment and every five to seven days thereafter, in order to remove any cysts that may be present. If there is marked diarrhea, opiates should be given in sufficient quantity to control it.

#### SERUM AND BLOOD TREATMENT OF HEMORRHAGIC DISEASE

Dr. Beth Vincent calls attention to the fact that, when treated by the older methods, hemorrhagic disease of the newborn is characterized by a very high mortality, and also that, according to various authors, less than fifty percent of the patients recover.

By the use of gelatin—which is employed widely in Europe and is highly recommended by some German writers—this mortality was reduced, in some very favorable series of cases, to as low as 8.8 percent, and one author reported five cases, with none resulting in death. Others deny the efficiency of gelatin.

Since injections of animal serum and of human-blood serum have been suggested, the mortality of this serious disease has been reduced materially, and it has been claimed that the injection of whole human blood was even superior to the use of the serum.

In an interesting paper, with case-reports, in *Archives of Pediatrics* for December, 1912, the author reports on her experience with transfusion of blood from human donors, according to which eight out of eleven patients so treated were cured, all eight being, at the time of writing, in perfect health and showing no abnormal tendency to bleed. Four other patients that were not treated by transfusion received, instead, injections of whole human blood. All of them died; but the author denies that the fatal result can fairly be taken as evidence that the method is ineffectual. The author considers transfusion the best means of treating melena neonatorum.

#### ROCKY MOUNTAIN TICK-FEVER

There are two sovereign remedies for Rocky Mountain tick-fever, according to W. L. Frazier (*Med. Rev. of Rev.*, Oct., 1915, p. 610), namely, (1) quinine bisulphate, to be given in 5-grain doses every three or four hours during the day, and (2) ipecac—or, its alkaloid, emetine. The quinine, he alleges, cuts short the course of the fever, while the ipecac controls its most serious and dangerous symptom, the hemorrhagic purpura.

# Miscellaneous Articles

## Nonsymptomatic Sore Throat, and Rheumatoid Pains

REGARDING the suggested symposium on sore throat, may I add the following observation that has been serving me in many practical ways? I have noticed that many obscure fevers and many vague neuralgic and myalgic pains have turned out to be caused by, or associated with, nonsymptomatic pharyngitis or tonsillitis and that these would disappear after swabbing with a 10-percent solution of silver nitrate, followed by gargling with Dobell's solution. My attention was first called to this treatment by Prof. Gordon Wilson, of the University of Maryland, and forcibly so, since I was the subject referred to in "case 111" in his series published in *The New York Medical Journal* for September 3, 1910, under the heading of "Diagnosis of Tuberculosis." This is what Wilson wrote:

"The first was in the case of a former interne of the University of Maryland Hospital, who gave the following history: Family history good and the past history negative, save for the diseases of childhood. For two or three years the patient had had mild neuralgic or myalgic pains in different parts of the body, but unaccompanied by sore throat, nor were the joints affected at any time. He had also had, during his year's residence in the hospital, mild indigestion, with attacks which simulated chronic appendicitis. He had had no cough or pulmonary symptoms, had lost a little weight (which could be ascribed to his hard work), and, in fact, was in fairly good health.

"He decided, however, to have his appendix removed before leaving the hospital, and was operated upon under ether as a general anesthetic; and there was found an adherent appendix, but no acute inflammation. The appendix was removed, and the wound closed, and the patient did well for two or three days following the operation, when it was noticed that he was having an afternoon temperature of from 100° to 101° F., a rapid pulse (110 to 120), a tendency to clear his throat, but no

cough or sputum; and it was feared that there might be a lighting up of a tuberculous lesion, as is so frequently the case following a major operation under a general anesthetic. The examination of the abdomen showed nothing to account for the rise of temperature, and the blood examination showed a leukocyte count of about 8000—which might well be considered normal. Careful examination of the lungs showed nothing abnormal.

"Then a complete routine examination was made, and there was found a bilateral enlargement of the tonsils, with some congestion, the examination otherwise being negative. The tonsils were then swabbed with a 10-percent solution of silver nitrate twice a day, and Dobell's solution was used at 3-hour intervals.

"Immediately following the swabbing of the tonsils, the temperature and pulse returned to normal, and remained so during the further period of his convalescence from the operation; which, I think, can be said to be therapeutic proof of the diagnosis of nonsymptomatic amygdalitis accounting for his symptoms and fever. This case would have remained undiagnosed, or at least incorrectly diagnosed, if a thorough routine examination had not been made."

The following bit of personal experience may be of some interest in this connection: At present, whenever I experience a neuralgic or myalgic pain (which usually is in the right knee, although at the time of writing it has appeared in my left shoulder), I request my partner—that is, my father, Dr. E. W. R.—to inspect my throat; and invariably there is found a condition of congestion. There are no striking symptoms, while the congestion disappears if I have the throat swabbed with the silver solution; if, however, I delay, there develops, in about two days, a mild pharyngitis, with the usual subjective symptoms. I have learned by experience that, as a rule, an incipient pharyngitis first manifests itself in my knee, in the form of rheumatoid pains.

Here is another case typical of the foregoing conditions:

In the summer of 1910, a man called upon me, complaining of pains in his back, which had occurred at different intervals within the last several years. There did not seem to be any indication of kidney involvement, although a much desired uranalysis was not made. The pain seemed to be worse when he was in bed or the bathtub, especially if the water was cool. There was no tenderness upon pressure over the spine; the pain was worse upon bending over, was not constant, nor, apparently, affected by damp weather. The man had had occasional attacks of sore throat, and, being questioned, he thought that possibly the pains generally were worse at those times. At this time, no subjective throat symptoms were present.

Examination revealed a chronic inflammation of the throat and the tonsils rather shrunk, of a reddish, or beetlike color, and shiny. The pharynx showed engorged blood-vessels, the uvula partaking of the same beet color as the tonsils.

Treatment consisted in swabbing the pharynx and tonsils with a 10-percent silver-nitrate solution and gargling every four hours with Dobell's solution. This treatment was followed by immediate improvement, the pains in the back disappearing in a very short time, and, when last heard from, there had been no return. Of course, there is a possibility of a recurrence, but this does not alter the point in mind. The diagnosis in this case is, chronic atrophic tonsillitis and chronic pharyngitis, while the subjective symptoms would lead one to think of lumbar myalgia.

These two cases are typical of many which it would be useless to relate, but all bear out Doctor Wilson's assertion that a routine examination is essential for correctly diagnosing these conditions; as, in fact, all conditions.

I cannot refrain from mentioning here that for the past two years I have been using calcerin in all acute conditions of the throat and respiratory tract. Whenever I have the slightest reason to suspect diphtheria, I aim to give antitoxin early and to settle the diagnosis afterward; but, whenever the throat trouble does not impress me as diphtheritic, I have found that calcerin seems to remove the condition remarkably fast, as, for instance, tonsillitis. In cases of the kind indicated, I supplement the calcerin with the silver swabbing, while in cases bordering on "quinsy" I give calcium sulphide to saturation.

All of these conditions being usually associated with intestinal intoxication, I add the sulphocarbonates after purging the patient.

JOHN W. ROBERTSON.

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#### WHY NOT THE SYRINGE—ANOTHER COMMENT

I have read with interest in December CLINICAL MEDICINE what Doctor Cannon, of Kidder, Missouri, says of subdermal injections, as also the editor's note. Especially was I interested in the statement that "the man who resorts to the syringe in chronic diseases can have, or should have, a perfect stream of patients coming constantly to his office." Yes, he *should* have, for this is the correct treatment. But, will he? I doubt it. Let's look at it from different aspects and consider locations, city and rural.

First: Since the general publicity given the Harrison antinarcotic law, the public associates the hypodermic syringe with "dope" and, erroneous as it is, it will be at least a full generation before people can be disabused of this deep impression, especially in country practice.

Second: In all quack advertisements, the public is warned against allowing the hypodermic syringe to be used; and it will read them, for, it loves the so-called "specialist." The latter is so very much better informed than the family physician; then, not only does he condemn the use of the hypodermic syringe, but, by the shrewd employment of such phrases as, "We never use the hypo," "a purely vegetable compound," "no minerals given," and such like, he molds public opinion, notwithstanding the fact that the very use of such expressions brand him (to the well-informed) as a quack of the deepest dye, as one who is pandering to the prejudices of the ignorant and one wishing to impress the public with the fact that all who give minerals and make use of the syringe should be avoided.

Third: The country physician's time is too much taken up "getting around" to stay in his office to attend to this constant stream.

Fourth: The city physician who would be bold enough to attempt to start this constant influx of patients by adopting the hypodermic treatment would, I fear, soon be set down as a crank and his patrons considered as dope-fiends; while the worst feature of it would be that his brother physicians would not endeavor to correct, but rather encourage that impression for temporary personal gain,

especially should the innovator be an old physician having a large practice and experience. Nevertheless, the suggestion by the editor is a good one, the method is correct, and possibly, whenever indicated, it could be adopted to great advantage in the city, by the man just out of college; but never, without great risk of losing his patronage, by an old, established practitioner.

I sincerely question the profitable application of hypodermic medication in country practice, for the reasons stated, as well as because of the fact that the people in rural communities are loth to accept new ideas of any kind, especially any deviation from the old routine of treatment where their lives are at stake.

So much for subdermal injections, and this brings to mind another thing.

Most medical-practice laws are promoted by city physicians, I believe. When are we going to learn that, no matter how practical and beneficial certain laws may seem to us, nine-tenths of them are impractical and even detrimental to the physician practicing in the country. I have practiced many years both in country and city, and I am convinced that few of the customs of either are applicable to the other.

It almost seems as though the principal object of most of the medical laws is, to retire the old physician. Whether this is because there are too many doctors for the amount of sickness, I cannot say; possibly it is because they are too critical and cannot refrain from passing judgment when they see young cigarette-fiends carry their forceps to every confinement-case and use it unnecessarily, tearing uterus and perineum, in order that they may become adepts in sewing them up, or, worse, that they may exact a larger fee. Little wonder that the old physician gets disgusted with modern obstetrics, especially in the country.

I am not condemning the use of the forceps—certainly not. The forceps is a splendid instrument when needed; but, I have seen it abused altogether too often not to take up my pen in defense of the young father who has had his marital prospects ruined simply that some young medico may become adept in the use of the tool.

That suggests several questions: How is a man to become an adept in the use of the forceps? How is he to become an expert obstetrician if he is not allowed to use the forceps except when needed, especially in the city, where many young men do not have four confinement-cases in a year, while

at least 90 out of every 100 deliveries should be made without resort to it?

What proportion of recent graduates who are permitted to go out and practice upon the unsuspecting inhabitants are qualified to use the forceps with safety to the mother and child? Answer: Possibly not one in a hundred; certainly not one in twenty-five.

Young man, if you are going to be a general practitioner and desire to retain your families, study obstetrics, and study it well, so that you may know how to act in an emergency. Make the acquaintance and cultivate the friendship of the old physician. You will never find a better friend; and he will be a friend in need. In a few years, you will be able to help him oftener than he has helped you, and you can rest assured that he will appreciate you and call upon you often and send people to you when he is too tired to go. And in that way you will become an expert obstetrician before you suspect it. You learn the art by experience, if you have the counsel of one who has gone through the work.

Remember, that it is natural for women to give birth to children without instruments being used—and simply because the woman wants you to employ the forceps is no reason why you should do so. And, if you expect to get experience by practicing upon your friends in private practice, you will soon have neither friends nor practice.

Let us hope that the much that has been written on "twilight sleep" (I do not like the term!) will do much to obviate resort to instrumentation. Suggestive therapeutics can be used to great advantage in these cases. I once unintentionally hypnotized a primipara and delivered her of a fine baby, without her feeling a particle of pain, notwithstanding she obeyed every word, even to getting out of bed and having a labor-pain standing at the foot of the bed and with her eyes open, in order to change the position of the child's head. It is astonishing what can be accomplished by suggestive therapeutics.

W. H. HOPKINS.

Norwood, Ohio.

[I like good critical papers like this one. They help to clarify the mental atmosphere. Of course I don't agree with everything Doctor Hopkins says, particularly with his remarks about hypodermic medication. It is hardly necessary to say that I am not advocating giving every office patient a "shot" every time he comes to see the doctor. That would be foolish, and would do harm. I am urging,

however, every physician to build up an office practice, and as early in life as possible. It may be impossible to "teach the old dogs new tricks"—but don't be an old dog. The time will surely come when the hard country drives must be given up, and then it's a comfortable thing to have people coming to see *you* for the treatment of the "walking" ailments and the chronic diseases. Even in the country the average doctor can adjust himself, somewhat, to this vision.

Hypodermic medication may be a means—and a very useful means—to that end, to be used in association with hydrotherapy, electricity, refraction-work, and the very best of internal medication to cure people who otherwise would desert you for the specialist in the great city. We know now that splendid results can be obtained with bacterins (which are given subcutaneously), with emetine, sodium cacodylate, with the iron tonics, and a score of other remedies so used. It will be very easy for you to dissipate any lingering fear of "dope" from the minds of your patients, if you treat them tactfully.

But enough of this. With Doctor Hopkins' views regarding legislation I am largely in accord. It is being overdone, and by men who have a very feeble conception of the responsibilities and difficulties of the country practitioner. It has been the constant effort of CLINICAL MEDICINE to rouse the profession to the importance of this matter.—Ed.]

#### APOMORPHINE FOR STRYCHNINE POISONING IN A YOUNG CHILD

The victim in this case was a little girl 3 1-2 years old, who was burdened with a hereditary luetic taint. Her father was Italian, the mother was American. The child found on the floor some red sugar-coated tablets containing 1-30 grain of strychnine, and ate them, then told her mother about these "candies." The mother was not alarmed, but did give the child some castor-oil. One hour afterward (at 6 p. m.), while at the supper-table, the child was seized with convulsions. The father hurried to my office with the child, who, upon her arrival, was in a semiconscious state and in an opisthotonic convulsion; and was emitting a low guttural cry.

I immediately gave the child a hypodermic injection of 1-10 grain of apomorphine (having been advised by telephone), not waiting to sterilize the needle and solution; then gave inhalations of chloroform. The convulsion ceased, but she had another in five

minutes. This also yielded to the chloroform. Another one occurred in about two minutes, when I started to make a rectal injection of salt solution. I now gave a second 1-10-grain dose of apomorphine, and soon the child had dropped into a sound sleep, from which she did not awake inside of one hour (at 8 p. m.), apparently all right.

The next day, an occasional twitch of the muscles was noticed, but otherwise nothing unusual took place.

No vomiting was produced by these excessive doses of the apomorphine, nor even a suggestion of nausea. Bear in mind that the dose was twice or three times the average amount for an adult.

WILSON D. WEBB.

Addison, N. Y.

#### THE EARLY TREATMENT OF DIPHTHERIA

Looking back over thirty-five years of private practice, I become aware of many changes in my own ideas as to what treatment to adopt in many of the cases coming under my care. Most marked and most satisfactory is the method I now employ for sore throat in which a membranous deposit is present. My emergency-bag always contains one or two tubes of diphtheria-antitoxin, so that I am able to start at once, at my first visit, the proper treatment. Almost without exception I inject 3000 units, then take a swab from the throat for making a bacteriologic diagnostic culture. The families of my clientele know my convictions as to the need of prompt treatment and, consequently, call me early. Locally, I employ a mild alkaline or saline spray, or a gargle if the patient is old enough; but I never apply any strong antiseptic or astringent. No matter whether the attack proves to be true diphtheria or septic sore throat, I feel quite safe with the one dose of 3000 units of the antitoxin.

In laryngeal or severe nasal invasions of the disease, I administer another dose of 3000 units very soon; that is, either at once or within twenty-four hours.

Rest in bed, liquids for food, early use of antitoxin, and cleansing of the throat with a mild lotion—not forgetting proper and "enough" elimination by means of calomel and a saline laxative—these constitute my main battery.

Most of the patients thus handled you may claim to have been "cured," rather than that



they "got well" despite the disease and—one might say—an expectant doctor.

THOMAS B. VAN ALSTYNE.

Binghamton, N. Y.

#### PROTECTIVE VACCINATION AGAINST SMALLPOX

In the December number of *CLINICAL MEDICINE* (page 1140), an article on the protection afforded by vaccination refers to the prevailing opinion that there is a *time-limit* to its efficacy. But, also, may there not be a question as to the *extent* of protection conferred in a given case? Why do some vaccinated persons have varioloid, while others equally exposed are not attacked?

The article referred to goes on to say: "The inspectors of the New York Department of Health occasionally meet with persons who can be successfully revaccinated at the end of six months, although the shortest period of immunity conferred by vaccination, in the actual experience of the department, is nine months." And the conclusion arrived at is, that "the immunity conferred by vaccination at times is very evanescent." However, the question arises, whether that really is true. Was the effect of the primary vaccination evanescent or was it simply insufficient?

It is well known that the susceptibility to disease varies in different persons. Then, there are also degrees of immunity or in the amount of protection afforded by vaccination?

Some years ago, a patient of mine contracted smallpox. He was duly quarantined and a nurse was employed who had previously had the disease, as evidenced by a face abundantly pockmarked. Before the first patient was out, the nurse was taken sick, and he had the disease in typical form (although not severe) and was decorated with additional pockmarks. So, then, this man's susceptibility certainly was not exhausted by his first attack.

Following that episode, I made it a practice, for several years, to revaccinate all who were willing, within a year—most of them at the beginning of a school-term. A few "took" the second time, and one I vaccinated the third time without result.

Are we, then, warranted in telling anyone that he is "fully protected" after a single successful vaccination? In connection with the infectious diseases, we sometimes speak of a certain person as being immune, which necessarily carries with it the thought of entire absence of susceptibility to the disease

or poison in question. If once actually immune, what proof have we that it is ever lost?

G. V. R. MERRILL.

Elmira, N. Y.

[The article referred to by Doctor Merrill, is an abstract of a report of investigations by the New York City Health Department. —Ed.]

#### STATE BOARD EXAMINATION QUESTIONS

In the January number, page 84, we printed a number of the questions asked at the California state medical examination, June 17, 1915, promising to continue the examination-questions in this issue. We little realized the amount of space which would be required, and in view of this we shall have to "adjourn" these for another month, at least, since we promised to give in this number the answers to the questions already printed. We are using what we can, but we find that we shall have to postpone the answers to the questions on chemistry, bacteriology and pathology, and materia medica and therapeutics, until the March issue.

Please let us know if you find these questions and answers interesting. Whether we shall continue this feature or not will depend upon the opinion of our subscribers.

#### ANATOMY AND HISTOLOGY

1. The lumbar plexus is formed by the anterior rami of the first three, and a part of the fourth, lumbar nerves, with the addition of a small branch from the twelfth dorsal. Branches go to the quadratus lumborum, psoas muscle, ilio-hypogastric, ilio-inguinal, genito-femoral, lateral cutaneous, obturator, and femoral.

The sacral plexus is formed by the lumbo-sacral cord, anterior rami of the upper third sacral and part of the fourth sacral nerves. The branches are the muscular, superior and inferior gluteal, small and great sciatic, internal pudic, perforating and cutaneous.

2. *Synarthrosis*.—An immovable joint, consisting of two bones, edge-to-edge. Example: The lambdoid suture.

*Amphiarthrosis*.—Two bones with an intervening cartilage, held together by ligaments, permitting of slight motion. Example: Vertebrae.

*Diarthrosis*.—A freely movable joint lined with synovial membrane and surrounded by ligaments. Example: Hip joint.

(b) The hip joint is a ball and socket joint, consisting of a head of the femur resting in the acetabulum and surrounded by capsular ligaments, the latter being reinforced by Y and other ligaments. The joint has flexion, extension, adduction, rotation and circumduction. The blood supply is from the obturator, sciatic, internal circumflex, and gluteal; nerve supply from the sacral plexus, the great sciatic and anterior crural.

3. The eighth nerve has two roots: the vestibular and the cochlear, the former terminating in the restiform body and the latter in the fourth ventricle. The first root emerges between the olivary and restiform bodies, the latter winds round the outer side of the restiform. The two roots then unite, pass through the internal meatus and again separate to form the vestibular and the cochlear nerves.

4. The thorax is formed by the twelve dorsal vertebrae, twelve pairs of ribs, sternum, and muscles and fascia attached to them. It is separated from the abdomen by the diaphragm and contains the chief organs of circulation and respiration, as distinguished from the abdomen which encloses the digestive apparatus.

5. The cervical pleura is the portion which rises into the root of the neck. The costal pleura lines the chest wall, being attached to the costal surface of the thorax. The parietal pleura lines the different parts of the chest-wall, of which the diaphragmatic layer covers the upper surface of the diaphragm, except on its costal attachment. The mediasternal portion is a continuation of the costal pleura from the sternum to the vertebral column. The pulmonary portion is the layer which invests the lungs, dipping into the fissures between the lobes.

6. (a) Turn the head obliquely to the opposite side. Acting together pull the head downward and forward. (b) Flexes the thigh and rotates it slightly inward. (c) Moves the scapula and elevates the rib. (d) Moves the arm in all directions. (e) Draws the head to one side or backward and rotates the scapula. (f) Extends the lumbar spine. (g) Moves the arm inward and backward.

7. Diagram.

8. The jejunum contains no special structures. The ileum has collections of solitary follicles, usually showing a germinal centre, known as Peyer's patches. The duodenum has a large number of tubulo-alveolar glands known as the glands of Brunner. The glands of the ileum are broad and the cells are chiefly of the goblet variety. There are no special structures, but one sees longitudinal bands and sacculations.

9. The internal coat consists of three layers: Endothelial, subendothelial and internal elastic lamina. The latter does not take a stain well and appears as a light wavy band. The middle coat consists principally of non-striated muscle-tissue with small fibres and some elastic fibres mixed in; often there is an external elastic lamina, but not so permanent as the internal. The external coat is thick, fibro-elastic tissue, sometimes containing longitudinal muscle fibre. This coat contains the vasa vasorum and the nervi vasorum.

10. Commences by the union of the superior mesenteric and the splenic veins. The latter unites with the superior mesenteric to form the portal vein. However, the portal system has for its tributaries veins from almost the entire abdomen and pelvis, all the veins agreeing closely with the terminal branches of the corresponding arteries.

11. The superior cervical ganglion lies between the internal jugular vein and the internal carotid artery. It is the largest of the sympathetic ganglia. The inferior ganglion, which is joined to the superior by the commissural cord, lies behind the first part of the sub-clavian artery, between the last cervical process and the neck of the first rib. The middle cervical ganglion is usually located over the inferior thyroid artery as it passes behind the carotid sheath. It is frequently absent.

12. The mammary gland is an alveolar-tubular organ composed of from fifteen to twenty individual compound-glands, each of which opens by its own duct into the nipple. Each gland consists of lobes and lobules interspersed with fibrous and adipose tissue. Each lobule consists of tubular or alveolar acini, whose number depends upon the activity of the gland, and which are lined by the simple columnar cells wherein the fatty globules of the milk are accumulated. The ducts are lined by simple columnar cells on a basement membrane.

## PHYSIOLOGY

1. (a) Hemolysis is the breaking down of the red blood corpuscle and the leaking out of the hemoglobin. It may be brought about either by destroying the envelope of the corpuscle, or by disturbing the osmotic balance between the inside and the outside of the envelope. Under the first heading we have as causes certain chemical substances in the blood, e. g., ammonia, snake venom, chloroform, etc., and almost all infectious toxins. Under the second heading the entrance into the blood of anything that dilutes the serum. Under both headings come the blood of other species of animals which are hemolytic to different species. In order for hemolysis to take place, there must be present in the blood a hypothetical element known as the complement, which forms the connecting link between the hemolysin and the hemolyzed corpuscle.

(b) Leukocytes are supposed to be manufactured in the red marrow of the bone, and they are eventually disintegrated and utilized for the nourishment of the plasma of the blood.

2. Peristalsis is increased either by direct stimulation of the sympathetic nerves supplying the musculature or (what is much more frequent) by negative stimulation due to impairment of cerebro-spinal inhibition (diarrhea). Peristalsis is hindered by just the opposite nervous conditions (constipation).

3. Respiration is increased either by direct stimulation through the sympathetics or by irritation of the respiratory center in the medulla, as in fevers and toxemias, and by suspension of cerebral inhibitions, as in emotions; respiration is depressed by precisely the opposite conditions.

4. *Inhibition*.—The check action of the brain upon spinal and sympathetic innervation.

*Diffusion*.—The mixing of gases and of fluids in accordance with their atomic weight.

*Osmosis*.—The mixing of fluids through a semi-permeable membrane in accordance with their densities of saturation.

*Diapedesis*.—The transudation of the blood elements through the unruptured vessel walls.

*Perimetry*.—The measurement of the visual field.

5. The initial stages of growth are provided for by the small amount of nutriment contained in the ovum at the time of fertilization. Immediately on implantation the ovum absorbs nutriment directly from the uterine blood. Shortly afterward the chorionic villæ burrow into the uterine membrane and the placenta gradually forms as a definite nutritional organ. The fetal and maternal blood do not come into actual contact, being separated by the walls of the fetal vessels. Nutritive material passes from the maternal to the fetal blood, and waste products pass in the other direction, by diffusion. Glycogen occurs in the placenta itself and in all the embryonic tissues during growth. No doubt the epithelial cells of the villæ are the most active factors in the exchange of

materials. The kidneys may form urine long before birth, but the kidney functions of the embryo are doubtless performed chiefly by the placenta and the maternal kidneys up to the time of birth. The liver also begins its function early. In general, it may be said that for a long period the metabolism is principally performed by the maternal organism, but as term approaches the fetal tissue and organs begin to assume more independent activities.

6. Color blindness is generally assumed to be due to the absence in the retina of photo-chemical substances whose response to certain light waves is responsible for the color sensation in question. The details of this deficiency depend upon whether one accepts the Young-Helmholtz theory of color or the Hering theory. In either case, however, the absence of the substance or substances in question involves a blindness to the complementary colors. Thus, if a person be color blind for red, he is also more or less color blind for green, etc.

7. A reflex consists of a short circuit current through a sensory nerve, a spinal arc, and a motor nerve, to a muscle or group of muscles. If the spinal arc be in uninterrupted communication with the brain, the brain exerts a check influence upon the current and subdues the motor response. If this inhibition be removed by an interruption of the brain-cord path, the motor response is then maximal and the reflex is exaggerated.

8. The rods are supposed to be only sensitive to light and darkness and by their power of adaptation (regeneration of their visual purple) form the special mechanism for vision in dim lights. The cones are supposed to be responsible for the perception of color.

9. During the latter part of an inspiration the size of the brain is slightly increased, because of the rise of the systemic blood pressure. During the latter part of an expiration, its size is slightly diminished, for the opposite reason.

10. Sensations of hunger and thirst are due to different causes, according to the degree of the sensation. The earliest and most superficial sense of hunger probably has its origin in the peripheral nerve-endings in the stomach. The second degree of hunger is no doubt due to the general demand of the tissues for food and has its origin in various and complex nerve phenomena. There is still a further and profounder hunger which occurs under starvation, and is rather hard to explain.

Sensations of thirst are subject to about the same explanations, except that superficial thirst is due to the pharyngeal nerves rather than gastric.

11. Normally, the sources of uric acid in the body are the nucleins of the muscles whose breaking up produces uric acid as one of the end-products.

Uric acid is commonly formed in man from the dis-assimilation of more complex compounds, of which no doubt the acid phosphates are one of the principal types.

12. Section of a cutaneous nerve is followed by absence of sensation in the surface involved and presently by atrophy of the skin.

### MANGIFERA IN DIPHTHERIA

In diphtheritic disease of the throat and nose, the specific tincture of mangifera is a

valuable addition to the usual treatment. In my little experience, when other treatment has failed to yield negative swabs, this remedy has done the work. The mangifera may be used as a spray or gargle, in the strength of 1 dram to 2 ounces of water.

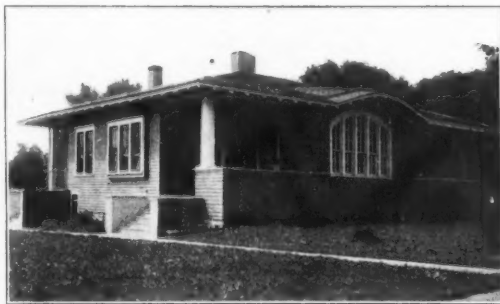
H. K. SHUMAKER.

Flat Rock, Ohio.

[The editor will have to confess that mangifera is one of the many remedies with which he has had no experience. Perhaps other readers of *CLINICAL MEDICINE* can contribute "pointers" regarding its various uses. In diphtheria, antitoxin is the remedy to which we must tie our faith—but that doesn't mean that it is the only remedy of value. —Ed.]

### A DOCTOR'S HOME, WITH PLAN AND PICTURES

The plan for the bungalow herein suggested is taken from the March, 1914, issue of *The Ladies' Home Journal*. The building stands on a double lot and faces to the north. The ground naturally slopes from the street



Front view of Doctor Knipe's home.

line back toward the alley; hence, I conceived the idea of utilizing a portion of the large basement for installing my automobile—as shown in the rear view of the bungalow; in pursuance of this idea, the natural slope was augmented by grading, thus enabling me to run the car into the basement garage almost on a level. This part of the plan I consider a most desirable feature, for it not only saved me the price of a new garage, but I also have the advantage of a warm room for the car in the winter time, because of its proximity to the furnace. And this means a great deal to me, as a physician, owing to the ease of starting a warm car, as compared with a cold machine.

Next, the two front porches are of equal size, and I have screened the one on the west for a sleeping-porch. As shown in the floor-plan, this porch opens into the front bed-chamber, thus making it very convenient to dress for bed in the chamber and then step right out on the porch. The convenience of this location of the chamber will be appre-



Back view of Doctor Knipe's home, showing basement garage.

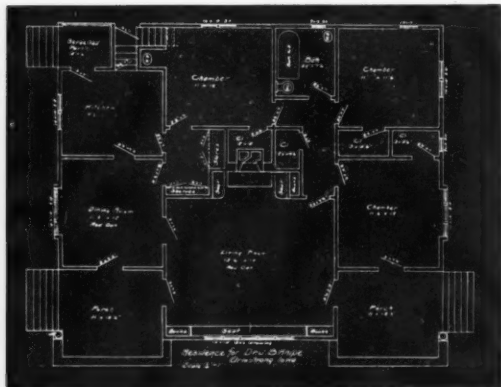
ciated when considering the ease of retiring hastily when the weather suddenly becomes inclement during the night.

The large well-lighted living-room, with the open fireplace, is one of the pleasing features that should not be overlooked in this plan.

The basement is of the same size as the house  $40 \times 44$ , and is amply large for garage, furnace-room, coal-room, vegetable-cellar, and laundry.

The living-room and the dining-room are finished in oak, the others in natural fir.

The itemized cost of this bungalow, as built by me in the summer of 1914, is as follows:



Floor plan of Doctor Knipe's home.

Excavating, grading lawn, and draying	\$ 112.85
Foundation and cistern (labor and material)	389.20
Carpenter (labor)	569.96
Hardware	125.39
Plumbing (labor and material)	251.10
Chimneys and fireplace (labor and material)	117.60
Plastering (labor)	90.00
Lumber and mill-work	1407.20
Electric wiring and fixtures	83.90
Painting and decorating (labor and material)	365.10
Heating-plant, including labor of installation	250.00
Sidewalks and incidentals	61.75

Total.....\$3824.05

J. B. KNIPE.

Armstrong, Ia.

### THE PROGNOSIS IN PNEUMONIA-CASES

The death rate of pneumonia depends upon several factors. Thus, in general, the environment in all its phases has a large influence.

Similarly, the patient's age is an important factor; the old being likely to die, while the young recover. Race also has its influence; statistics show that the disease is much more fatal in negroes than in caucasians. Furthermore, previous occupations and conditions of health play a role. Thus, it is well known that those who work in mines, in foundries, or in places where the air is laden with dust, overheated, dry, and impure succumb more often than those who live in more normal surroundings. So, also, the condition of the patient's bodily health at the time the pneumonia is contracted may be a strong factor in preventing recovery.

The statistics of necropsies gathered from various hospitals show that there existed extensive interstitial changes in the kidneys, ranging from 5 to 8 percent, in those who had died from pneumonia. This is easily understood when we remember the class of patients that are taken to the hospital. They include persons debilitated from sickness, poor food, hard drinking, and venereal disease; and then that other class of patients—robust-looking laborers between the ages of 40 and 60 years, whose organs show signs of wear and tear and who have in or through excess of one kind or another weakened their reserve power.

Very few deaths occur from pneumonia among robust, healthy individuals. This fact is forcibly shown by statistics gathered from the armies of Germany, which are composed of picked healthy men. Here, the death rate from pneumonia is as low as 4 percent; as calculated from the deaths occurring in 40,000 cases of pneumonia in times of peace. However, one year after the present war began, the death rate had risen to 6.4 percent; thus showing the influence of exposure and hardships of warfare.

In pneumonia, there are several causes or combination of causes that lead to the death of the patient. Apart from mechanical interference with the respiration and also certain possible complications, the fatal event is generally due to a slow toxemia. As a rule, the pyrexia and the consolidation of the lung-tissue are of secondary importance in this disorder, when compared with the existing toxemia. The degree of this toxemia does not depend upon the bulk of lung involved; and there may be present severe and even fatally ending toxemia when only one-half of one lobe is consolidated, while in another patient the toxemia may not be nearly as profound and, yet, one whole side be involved.

I remember a case of acute mania, that was due to toxemia, in a young man who had the disease but very lightly. Probably, had the disease been more severe, he would have received closer attention and the profound toxemia would have been avoided. It has been my experience that many of these cases which develop profound toxemia present great variations from the usual typical picture. There may be but slight cough or none at all, no expectoration, but slight or no leukocytosis, and but slight rise in temperature.

This poisonous toxemia may develop early in the disease and from the onset cause a gradual reduction in the vital powers.

From the foregoing, it will be seen that in most instances the prognosis of pneumonia depends upon our ability to recognize and treat the toxemia. If the action of skin, kidneys, and bowels are looked after—in other words, if we maintain therapeutic cleanliness, the cause of the toxemia will be greatly reduced. We should also be alert to the use of remedies that will lessen the toxin-producing power of the pneumococci and to those that stimulate the production of antibodies. Those best suited for this work are nuclein, lobeline sulphate, and calx iodata, with pneumococcus-bacterin.

C. W. CANAN.

Orkney Springs, Va.

#### EMETINE HYDROCHLORIDE IN EPISTAXIS. WHEN THE WOMAN WAS "QUILLED"

Six years ago, while visiting another city, my wife was taken with epistaxis from the right nostril. She had three visits from a physician during that afternoon, and on his third visit he brought another physician with him and they used the galvanocautery. This was the first nosebleed she had ever had.

Last week, on January 6, 1916, she called me to her room at 5:30 a. m. Blood was running freely from the nostril (right side), also from her mouth. I did not try tamponing the nose, anterior and posterior, as that did not do any good in her first attack, since the blood, after two hours, pushed out the cotton and the bleeding was as severe as before. I thought at once of emetine hydrochloride, and had in my vest pocket a tube purchased recently. I injected one 1-2-grain tablet into the thigh at 6 a. m., then made a strenuous effort to get a specialist to come out; but it was early, and when I finally raised him at his office, about 9 a. m., he was busy and could not come for a few hours, and by this time the bleeding was nearly checked. At 12 o'clock I gave the same sized dose, and that was the last of the bleeding.

My wife was very weak from the loss of blood, otherwise complained of nothing unusual. Our son came in the evening, about 10 o'clock. I had 'phoned him early in the morning. He is in the drug business at the town of Waterville, the other side of the Cascades, 200 miles away. I write of my son's coming that you may know that it was serious, for we were concerned at her first attack, and wife says this attack was more severe than the first one.

My wife's weight is 212 pounds, and she is quite active. For several years she has had spells that cause her suffering—not pain but distress in the region of the heart. If she tries to hurry when walking, there is the sensation of great pressure in the left side, under the heart, with difficult breathing, and faintness comes on. Often after we hurry to catch a street-car it will appear and I give her two glonoin granules and two heart-tonic tablets (Abbott), and then she is relieved. During the attack of nosebleed, just described, she could not lie down because of the pressure of blood about the heart and in the head. She even felt better standing than in the sitting posture. I gave her about 90 grains of bromide of potassium in an hour, and her head felt better after that.



I shall always congratulate myself that I came to know the alkaloids. I would not like to do without them. It is not necessary to mention the different kinds, but I could give a good account of many of them.

Please excuse this long and rambling mis-sive, but I wanted you to know of the emetine episode, and could not refrain from mentioning the heart trouble. There is no organic (valvular) lesion that I can discover.

In the January *CLINICAL MEDICINE*, just to hand, I notice "Arkansas" speaks of some of the peculiar notions of the laity, and mentions the old lady's advice to blow in the hands to expel an afterbirth. I have heard women say that—and seen them do it. It brought to my mind the story told by a friend of mine, of a young doctor who was unable to remove the afterbirth. He had another young physician called in, and he also failed. Then they decided to call "the old doctor" of the town. When he arrived, and learned the condition of affairs, his first question was: "Have you quilled her, gentlemen; have you quilled her?"

"Quilled her," they said, "what is that?"

"I'll show you," replied the old doctor. He placed some snuff in a goosequill toothpick, put one end into the woman's nose and blew into the other. A tremendous sneeze—and the afterbirth was induced to change its location.

A. I. MITCHELL.

Seattle, Wash.

#### THE DEATH OF A NURSE FROM TYPHUS AFTER HEROIC SERVICE

The officials of The American Board of Commissioners for Foreign Missions have just learned of the death from typhus of Miss Marie Zenger, a Swiss nurse who was a member of the band of nurses and doctors despatched from the Board's station at Sivas, Turkey, to aid in caring for the sick and wounded in Erzroom early in the winter. Although not under appointment by the American Board, Miss Zenger was at the head of one of the orphanages established in Sivas after the terrible massacres some years ago and was closely associated with the Americans in all their work.

Early in the winter the American Hospital in Erzroom as well as the buildings of the American Board's Boys' and Girls' High Schools were filled to overflowing with sick and wounded Turkish soldiers. When typhus broke out, Dr. E. P. Case, the Board's phy-

sician, sent for help to the American hospital in Sivas. Dr. C. E. Clark, with a group of nurses, an orderly, and a druggist, took the 'twenty-one days' midwinter journey, across three mountains, to Erzroom, which, by the time his party arrived, was one big hospital.

Miss Zenger, the Swiss lady whose death has just been reported, did heroic service in connection with the American buildings, of which she took charge, seeing that they were cleaned and put into running order after the first typhus outbreak was somewhat in hand. She later supervised the organization of a hospital which some Armenians established in Erzroom. The Sivas party had started back over their mountain journey—Erzroom having received other reinforcements of military doctors and helpers—when Miss Zenger sickened. They reached Erzingan, an outstation of the Board, where a German hospital is located. Miss Zenger was taken there and given the best of care, but did not survive the crisis of the disease.

Miss Mary L. Graffam, head of the American Board's School for Girls in Sivas, was with Miss Zenger at her death, as she had been with her during her service in Erzroom. In a letter describing some of her experiences Miss Graffam says, "I cannot, of course, speak freely of all we see and hear. I feel that I am a different person from the one who left Sivas two months ago."

#### THE TREATMENT OF SORE THROATS

On page 1085 of the December issue of *CLINICAL MEDICINE* I find an invitation to contribute something on the treatment of sore throats. I have been in the practice of medicine just forty-nine years and nine months, and have treated a good many cases.

My usual method is to secure an active bowel action by the administration of calomel, podophyllin and bilein tablets. I also dispense as a gargle, to be used every two hours, a saturated solution of potassium chlorate, 4 ounces, to which I add 2 drams of tincture of iron chloride. If there is elevation of temperature, I give the patient a mixture containing tincture of aconite, 1 drop, and spirit of nitrous ether, 20 drops, to each teaspoonful of water. This dose is administered every three hours. I have never seen this treatment fail.

Should suppuraction of the tonsil ensue, which is very infrequent, I order hot applications of antiphlogistine. If the sore throat is associated with a general cold, I prescribe a

1-grain tablet of calcidin every one or two hours. Without "frills," this is a *sure* way to cure a sore throat. However, you must get in your work early to secure results quickly.

W. S. CLINE.

Woodstock, Va.

#### QUICK RELIEF FOR METASTATIC ORCHITIS

A man of 64 years, very obese, had a severe attack of mumps, which resulted in orchitis. He received the usual treatment, including ichthyol and other topical applications, but with no apparent benefit. The temperature mounted to 103.5° F. I then sent him 10 granules each of pilocarpine nitrate, 1-64 grain, and the defervescent granules, No. 1, with instructions to take one of each every hour till fever declined. I also sent calcium sulphide, 1 grain, and strychnine arsenate, 1-50 grain, one of each to be given every four hours.

Results were magical, and morning found the old gentleman free from fever and quite comfortable. Diaphoresis followed the third dose. Let him who thinks the alkaloids inert just try 'em a while.

J. J. CHAPMAN.

Nellie, Okla.

#### TAPEWORM IN A HORSE

Will you kindly inform me what to do for a mare with tapeworm. She has passed a number of segments, in fact, passes some with almost every bowel action. She has raised a colt this year and is now much out of condition. If possible, please give full directions, dose, and preliminary treatment.

C. E. JEFFREY.

Wickerville, Mich.

[We referred this problem to our friend and colleague, Dr. N. S. Mayo, whose comment follows:

"It is unusual to find horses, in the United States, infested with tapeworms, although there are three varieties that are reported as occurring in horses. All three are unarmed, and their life history is unknown.

"One of the best agents for the expulsion of tapeworm from the horse is areca. The dose is from 3 to 6 ounces of the pulverized nut. If the mare is in rather poor condition the smaller dose would be indicated. Before administering the remedy, diet the mare for

twenty-four hours, giving only thin bran mash, no hay or other roughness, to empty the digestive tract. The pulverized areca nut can usually be given in a small amount of thin bran mash, preferably sweetened if she is dainty about eating. Give it in the morning, and follow in four or five hours with a brisk purgative of aloin, grs. 120; calomel, grs. 30; strychnine, gr. 1-4; or a ball of about 6 drams of aloes combined with 30 grains of calomel and ginger.

"This should bring the worms away. An important part of the treatment is a proper dose. This can only be determined by the size and condition of the mare. It is probable that she is also infested with roundworms. After giving the treatment indicated she should be well fed on laxative, nutritious but not bulky food. Avoid corn fodder, straw or coarse hay. Stock molasses is excellent added to her grain ration in sufficient quantities to secure a mildly laxative effect. She should also have salt to lick at will."—ED.]

#### THE ADVANCES IN THE TREATMENT OF CHOLERA

In view of the continent-wide war now in progress and the fact that Asiatic cholera already is a concomitant feature—with its threatening spread to transatlantic countries—it seems worth while to reproduce at some length the substance of an address recently delivered at Vienna by Professor Gustav Gaertner, and reported in number 23 of the *Militärarzt* (a supplement to the *Wiener Medizinische Wochenschrift*), as well as in *Das Oesterreichische Sanitätswesen*. Being in the nature of a survey, much of what is said naturally is general knowledge; some of the statements of facts, however, may not be so widely known. At any rate, a short review cannot be out of place at this time.

This invasion of the intestines—as of course is understood—by the cholera spirillum (cholera vibrio, Koch's comma bacillus) will give rise to disease-manifestations of varying intensity, and these, broadly, are grouped under these heads; namely: (1) Mild, or cholera-diarrhea. (2) A more pronounced type, cholera. These two forms are not serious and do not require treatment, provided the subject does not aggravate the attack by excessive and incautious eating and drinking—the larger number of transformation of mild cases into grave ones as well as of deaths following the dietary sinning on

Sundays proving this latter contention. At all events, when cholera is prevalent, it is advisable to put to bed everyone complaining of diarrhea, and to order strict dieting. (3) Cholera gravis constitutes the third, the truly serious, division.

Cholera gravis—actual Asiatic cholera—generally sets in with great vehemence, and in most cases the dreaded cholera collapse supervenes largely within the next few hours, but never later than the second day; about two-thirds of the victims not rationally treated succumbing in collapse on the first or second day.

The symptoms characterizing this collapse stage of the attack may be explained entirely by the colossal loss of aqueous fluid drawn from the blood and tissues; and innumerable experiments demonstrate that all the grave phenomena of the collapse arise, in the first place, from an inspissation of the blood, and not from circulating toxins. Just as soon as the thickened blood has been rendered more dilute again, by means of infusion of water the frightful picture is changed as if by magic, the patient, already in the very jaws of death, all of a sudden seems entirely recovered.

Still, the cause underlying the blood thickening has not been removed by the infusion, if the diluent was merely physiologic (0.06 to 0.08 p. c.) salt solution. Both diarrhea and vomiting continue, even may become aggravated, and soon the blood is so viscid again that the heart is unable to pump it through the capillaries of the vital organs; cholera collapse ensues anew. Indeed, a certain ingenious writer has termed this form of replenishing aqueous fluid "Danaid" infusions (in allusion to drawing water into a sieve-bottomed vessel).

As a matter of fact, experience in large numbers of cases has demonstrated that physiologic, isotonic salt solutions hardly influence mortality at all. Only a few clinicians continue to use them, and then only in the shape of continuous instillation extending over several days. But, demanding uninterrupted supervision, this measure may be applicable in isolated, selected instances; in general practice it is inadmissible.

The reason for the continuous water evacuations in cholera is, that the presence, in the gut, of the pathogenic vibrios, as also of their metabolic products, induces a mighty pouring-in of aqueous fluid into the entire gastrointestinal tract; and this, obviously, is withdrawn from the blood. In this manner, as demonstrated by Rogers, several liters of water may be taken from the blood inside of a few hours.

As long ago as in the year 1893, the author of the paper under consideration, Doctor Gaertner, in association with Beck, showed that this exosmotic current just described can be reversed by merely supersalting the blood; or, in other words, the exosmotic process is converted into an endosmotic one, so that the blood actually absorbs and holds fast water from the intestinal lumen—yes, even from other cavities and the tissues of the body. The introduction of hypertonic saline solution into the circulation hastens the absorption of fluid from the gut. At the time an actual inspissation of the diarrhetic contents of the intestines was shown to take place after introducing excess sodium chloride into the blood current; consequently, that the osmotic process was reversed. At all events, the abnormal outpouring of water into the gut can be completely arrested.

In view of the facts thus indubitably demonstrated, Gaertner and Beck then (1893) felt justified in recommending the intravenous infusion of hypertonic saline solution as a therapeutic measure in Asiatic cholera.

In the same year, Doctor Rosner, of Budapest, tried this method in a number of patients, and with remarkable results; thereafter, however, it was forgotten until 1909, when Rogers, in Calcutta, took up the measure in earnest and tried it on a large scale. The results reported by this famous authority on tropical diseases are considered truly overwhelming by Gaertner, Rogers reporting a reduction of mortality among his patients to 23 percent, from 60 percent under his previous treatment; and, while formerly victims almost invariably succumbed in a fully developed collapse, they now rarely die in that phase.

Since then, this therapy has been introduced in various hospitals in India, as also in Palermo, with equal success. It likewise was practiced during the second Balkan war, in Serbia; where, however, Doctor Mueller, in association with Loewy, substituted hypodermoclysis for the intravenous injection of the hypertonic salt solutions, owing to the technical difficulties presented under the circumstances. Regarding this introduction of the solution into the subcutaneous cellular tissue Regimental Surgeon Mueller reported officially:

"These subcutaneous [hypertonic] saline injections acted excellently. The seriously prostrated patients revived, the hardly perceptible pulse improved markedly, vomiting ceased. The intense thirst now could be stilled with copious drafts of warm drinks. When, as would happen in severe attacks, a

collapse-like condition again developed, a second salt-water injection (subcutaneous) checked it; these injections occasionally being repeated on the second or third day, perhaps, at renewed outbreaks, always followed by a remarkable cessation of the liquid evacuations."

While the death rate from cholera was about 42 percent, it reached only 16.4 percent for the total of 31 patients thus treated by Mueller; but, excluding 2 cases of men brought in a moribund state, the deaths among the 29 amounted to only 10 percent. Doctor Mueller concluded his official report with this declaration: "I cannot conceive of a modern cholera-therapy without infusions of hypertonic salt solution."

Doctor Gaertner corroborates the foregoing statement by Mueller, that, in case the choleraic stools reappear, the saline infusions are to be repeated on the second and, if need be, on the third day. The effect of these saline injections seems truly marvelous; for, we are told, even while the infusion (the first time) is proceeding, "the clinical picture of the disease changes as if by magic. The discoloration of the skin disappears; the husky voice becomes more natural; the cramps, the oppression, the vomiting, the diarrhea, all let up; the pulse grows stronger, the dejecta lose their rice-water appearance and change to a normal color, and their odor becomes feculent."

For theoretical reasons, the author advises resort to these infusions as early as possible, and rather unnecessarily often than to risk being too late, in the belief that the attack is a mild one and might be curable without this measure. The operation is a simple one and, properly executed, can do no harm. Early interference only can prove the patient's chance of escaping a serious turn, as also of his more prompt recovery. It is of highest importance not to wait till thickening of the blood has begun, and this an early introduction of the water will prevent.

Upon theoretical grounds, further, to secure increased elimination by the kidneys, various additions to the saline infusion (e. g. pituitrin, to open the kidneys) have been suggested, from among which Gaertner gives grape-sugar (the true—not glucose!) the preference; the amount recommended being 3 percent to a 1.6 to 2 percent sodium-chloride solution; but as high as 9 percent of grape-sugar has been injected, without deleterious effects.

Beside the hypertonic salt infusions, Rogers favors the internal administration of potas-

sium permanganate, 1-10 to 7-10 Gram to 1000 Cc. of water; and also keratinized pills containing 0.15 Gram of the same chemical, 1 of these pills to be given every quarter hour until 8 have been taken, and half-hourly after that. His idea is, to destroy, by means of this powerful oxidizer, the vibrio-toxins in the digestive tract.

More recently, Stumpf has proposed the use of the white bole, large quantities of it to be ingested, suspended in water; and to be repeated as often as the drink is vomited. The intention here is, to coat the intestinal mucosa and thus obviate absorption of the toxins present. Several patients are asserted to have been favorably influenced.

A. G. VOGELER.

Chicago, Ill.

#### DEPARTMENT OF EXTENSION

As announced in the September number of *CLINICAL MEDICINE*, the little articles appearing in this department are to be handed by the physician to his patient. This literature is not to be substituted for the personal word of the physician, but represents the minimum of instruction and information for each patient. Probably the majority of physicians make a practice of giving an impromptu talk on whooping-cough, for instance, that will include a greater amount of information than found in the article below. If so, a great deal of time will be consumed in imparting this knowledge to each mother whose child has pertusis.

On the other hand, it is probable that in the daily routine at least some mothers receive less than this "irreducible minimum" of information. To standardize the doctor's work, we offer this little article, so that each and every mother can have at least this modicum of learning for the protection of her own and her neighbors' children. Anyone is at liberty to reprint this article, or we will ourselves supply reprints at a nominal cost.

#### SIMPLE RULES FOR THE PREVENTION OF WHOOPING-COUGH

Whooping-cough is caused by a certain species of germ which lives and multiplies in the delicate lining of the windpipe and bronchial tubes. The germs not only increase the formation of mucus, or phlegm, but also render the air-passages less able to throw off or eject such material. The cough is merely the body's effort to get rid of the germs and the excess of mucus.

For some obscure reason, the public tends to regard whooping-cough with a certain levity, as though it were in some degree a joke. Even those who regard it seriously often fail to realize its

very grave danger. Infants having whooping-cough show a higher mortality than do adults with either pneumonia, smallpox, typhoid fever or yellow fever. A reliable authority states that out of every 100 nurslings sick with whooping-cough, 40 die. If the age-limit is raised to 2 years, out of the 100 only 25 die. Whooping-cough rarely causes the death of a child above 5 years of age. The death record of a certain European city showed that during forty years whooping-cough had killed more people than had any quarantinable disease.

Children suffering from whooping-cough can communicate it to others from the time it makes its appearance until recovery is complete. It seems likely that danger of contagion lasts for a certain while after the cough has entirely disappeared. In order to catch whooping-cough, a child, as a rule, must come into personal contact with a person suffering from the disease. It is probable that the secretions and discharges from the nose and mouth are the medium by which the germs are spread from one person to another. It is possible also that toys or clothing may be soiled with discharges and thus convey the contagion; but such instances are rare. The time intervening between exposure and the development of the disease usually is less than sixteen days.

In order to guard against whooping-cough, young children should be kept away from crowds and should not be exposed to personal contact with any except persons known to be healthy. During an epidemic, great care should be exercised toward babies.

A parent whose child contracts whooping-cough should either keep the child at home or allow it liberty under careful precautions. If a child does not touch or play with other children, it can go out on the street without endangering the others. Coughing toward other children, exchanging toys with them or coming in close contact with them should be forbidden.

A vaccine against whooping-cough has been used by some, but the physician in charge of the case should be left free to use it or not, as he deems best. It is particularly advisable to give the best of care to whooping-cough patients under 2 years of age. The general strength of these little patients must be carefully saved. The treatment should be along systematic lines carefully followed out, with a view to saving the patient's strength.

#### THE FITZGERALD METHOD IN PAIN-LESS LABOR

Any method, no matter how improbable-seeming it may be, if calculated to render labor less of an ordeal, is worthy of consideration by physicians. Therefore, there may be something well worth "trying out" in the new method of inducing analgesia discovered by Doctor Fitzgerald, of Hartford.

A number of physicians have reported results, which, if confirmed by further experience, warrant us in believing that zonetherapy promises to be a boon to womankind.

To those who have had experience with zonetherapy in dentistry and in the relief of

rheumatism, lumbago, neuralgia, and other painful affections, mitigation of the pains of childbirth seems quite within the bounds of possibility. In any event, it will not be difficult to put it to the test, and then we shall see what we shall see.

Dr. R. T. H. Nesbitt, of Waukegan, Illinois, sends this very remarkable case-report:

"Last night I was called to attend what I expected would be my last case of confinement, as I have been doing this work for so many years that I intended to retire. From my last night's experience, I feel as if I should like to start the practice of medicine all over again.

"The woman I delivered was a primipara and small in stature. Her child weighed 9 1-2 pounds.

"When severe contractions began and the mother was beginning to be very nervous and to complain of pain, at which time I generally administer chloroform, I began pressing upon the soles of the feet with the edge of a big file, as I could find nothing else. I pressed upon the dorsal surface with the thumbs of both hands on the tarsal-metatarsal joint. I exerted this pressure over each foot for about three minutes at a time. The woman told me that the pressure on the feet gave her no pain whatsoever.

"As she did not have any pain, I was afraid there was no advancement. To my great surprise, when I examined her about ten or fifteen minutes later, I found the child's head within two inches of the outlet. I then waited about fifteen minutes, when I found the head at the vulva. I then pressed again for about one or two minutes on each foot, the edge of the file being on the sole of the foot and my thumbs over the tarsal-metatarsal joints as before. In this way, I exerted pressure on the sole of the foot with the file and pressure on the dorsum of the foot with my thumbs, doing each foot separately. The last period of pressure lasted about one and a half minutes to each foot. Within five or ten minutes, the child's head was appearing, and I held it back, to preserve the perineum. It made steady progress, the head and shoulders coming out in a normal manner. Within three minutes, the child was born, crying lustily. The mother told me she did not experience any pain whatever, and she could not believe that the child was born. She laughed and said, 'This is not so bad.'

"Another point that is very remarkable is, that, after the child was born, the woman did not experience the fatigue that is gen-



erally felt, and the child was more active than usual. I account for this on the principle that pain inhibits progress of the birth and tires the child. But, as the pain was inhibited, the progress was more steady and thus fatigue to both mother and child was avoided."

Dr. Thomas Mournighan, of Providence, Rhode Island, supplements this experience with several others—equally ridiculous or revolutionary—depending upon our point of view.

"1. Multipara—mother of four. Shortest previous labor, eight hours. Had had a laceration of uterus at first delivery. Had also one forceps delivery. When labor set in, she was given two aluminum combs to hold, and instructed to make strong pressure upon them, with a view to inhibiting pain, particularly in the first, second, and third zones. These combs were four inches in length and slightly roughened on the ends, so that the lateral surfaces of the thumbs could more effectively be stimulated.

"I was called at 4 o'clock a. m., and arrived at 5:05, when the babe had just been born. The woman told me that she had been in bed for only ten minutes. There had been only one severe labor-pain. This was when the head was delivered. No exhaustion followed, as in her previous labors, and she said laughingly, 'I believe I'll be able to get up this afternoon, doctor.' The afterbirth delivery seemed to be stimulated, and the pains were controlled by stroking the backs of the thumbs, first, and second fingers with the teeth of the combs.

"2. Primipara, 37 years old. This woman had a badly retroflexed uterus, which seemed to retard the advancement of labor, for she required five hours for delivery. She also used the comb pressures and, in addition, was provided with a rough-edged shallow box, upon which she pressed firmly with the soles of her feet. Four hours after delivery she had sharp afterbirth-pains, which were controlled by the stroking method before described. This seemed to give complete and satisfactory relaxation.

"There were three other cases, all of which responded equally well to treatment by means of zonotherapy.

"It should be added that, while the pain was inhibited, there seemed to be no diminution in the strength of the uterine contractions."

This may all sound foolish in the extreme. Yet, there are many other things equally foolish in the practice of medicine. And, if zonotherapy will do what its advocates claim for it, it may well be taken gently by the

hand, lifted out of the foolish class and placed among the ultrasensible procedures—where it belongs.

EDWIN F. BOWERS.

New York, N. Y.

[Our readers may form their own opinions as to the value of the method. We confess to skepticism. However—try it.—Ed.]

#### FROM A FLORIDA LUMBER-CAMP

If you will excuse the "picked-up-dinner" appearance of this letter, I will try to tell you something about the problems of a Florida lumber-camp surgeon; and if the



The Board of Health—Doctor Brigham and Superintendent Sullivan.

letter is not all that it should be, please remember that I am located 59 miles back in the woods, where we have

Trees in front of us,  
Trees to the rear of us;  
Blasting all 'round of us  
Volleyed and thundered.

In my present camp, which is known as Blue Creek Camp, we have 25 white families and 200 colored people, all of whom are under my professional care. We live in boxcars, of a kind shown in the pictures which I am enclosing. In the Company's old camp (abandoned last May), the cars and shanties stood close together, and filth, dirt, old cans, and other rubbish were knee-deep around them. Slops and kitchen-waste were all dumped under and about the cars, until conditions became so vile that about 40 people were taken sick each day. As for malaria—that was fearful!

I used to visit this camp twice a week, coming from Alton, Florida, where the Company's mill is located. Finally I was persuaded to take charge of the camp and go there to live, stipulating that I be given



A Birdseye view of the Blue Creek (Florida) lumber camp.

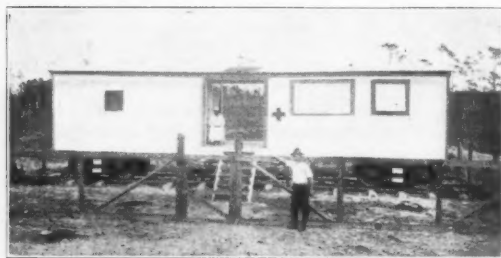
full power to clean up things. Inside of two weeks after arriving there the grounds about the cars were clean. All the accumulated filth was burned and the cans were buried. Then rules were formulated, and fines were provided for any infraction. These rules and regulations are still in force, and I can assess any person employed at the camp \$1.00 if at any time he allows waste to accumulate, or whenever I find a bit of paper, a tin can, a pasteboard box or anything like that around his habitation. After the third offense of this kind, I may order the offender to be given ten lashes. After one negro had received a whipping for carelessness of this kind, camp cleanliness was amazingly improved. If any of our workmen do not like my sanitation rules, he is at liberty to get out; however, everyone who stays must obey, or abide the consequences.

The result of this regimen is, that I have gained the reputation of having the cleanest

were made 30 feet wide along the fronts and backs of the cars and houses. Weeds and grass were cut, stumps and roots removed, and all ditches, ponds, and swamps alongside the tracks were kerosened. Also, the wood piles were located at definite points, and deep wells were drilled for pure water.

As a special feature, I must mention a hospital-car, provided at my suggestion. This car, I believe, is the most complete of its kind in existence, and, so far as I can ascertain, it is the only one owned by a lumber-camp. The furnishings are my personal property, and, as you can see by the illustration, I have in it a small drug store—in which, by the way, you can see, the alkaloids have a prominent part. Poisons and narcotics are kept in a small case—shown at the right of the picture. The window in the drug-room section is covered with a white gauze curtain. The car also contains an operating-room, and, moreover is provided with running water.

When I get my automobile—which will probably be next month—I expect to be able to have electric lights in the operating-room, with current from the lighting-system of the machine. One end of the car, when finally completed, will have four beds. A 6x8 corridor lets in plenty of air and light. The car also is fitted with airbrakes. Finally, if anyone is injured beyond my skill to repair, we can hitch on one of our locomotives and rush him to a hospital at Jacksonville or Valdosta.



Doctor Brigham's hospital car.

lumber-camp in all Florida. Better, the sick among our workers have averaged 3 1-2 persons per week since May 15, as compared with 200 taken sick in one camp of 500 population 15 miles from here, and 100 sick out of 300 people at another one.

When we moved to our present camp, I had all the cars and shanties placed lengthwise at 30-foot intervals. The "streets"

In a few weeks, we are going to move this camp to another location, and I am now laying it out carefully and hope to be able to reduce the amount of sickness even below the present rate. I am sending herewith some photographs of the camp to give you an idea of what we have. I think it a "model"—not meaning by that what the young woman found in the dictionary after someone told

her she had a model husband; to wit: "Model—a small imitation of the real thing."

P. H. BRIGHAM.

Alton, Florida

[Doctor Brigham, like so many other resourceful men, is an extensive user of the active principles. Not only is he attracted



Operating-room in the hospital car.

to them because they are effective, but also because they are concentrated and easy to ship as well as to carry. This is a matter of much importance to a physician practicing his profession 50 or 60 miles distant from a railroad or express office! And that reminds me.

Do you know of the handicap under which such a man at present labors in securing his drug supplies? As matters now stand, it is illegal to send "poisons" by mail—and that word "poisons" has been ruled to include a large proportion of our most potent remedies. This law, or "regulation," should be revised. Doctors deserve fair play, and they should fight for it. Write to your congressman and to the postmaster-general and tell them how you feel about this.—Ed.]

#### THE TREATMENT OF NOSEBLEED

In those cases of nosebleed in which it is necessary to call in a physician, there exists in the minds of patient and family a great deal of apprehension, amounting sometimes almost to a panic, this manifesting itself as hysteria or convulsions in very nervous persons; add to this the dread of anything like a surgical operation, and the coming of the physician is for patient and family a most nerve-trying ordeal. I have witnessed more than one bloody ordeal, where it was first necessary to hold the child by main brute force before the plugging of the nose (as it was called) could be completed. The appealing

tears of the frightened child hiding its face in the mother's bosom and clinging convulsively to her gown and the dictatorial words and actions of the doctor who has lost all patience are mental pictures not easily erased. Contrast this ancient relic of barbarism with my new method which has for many years been to me, and to the patient and friends, a very speedy and pleasant solution of this small but vexed question.

Prepare two pledgets of cotton just large enough nicely to fill the opening to the nose. In the middle of each tie a thread six inches long. Ask for a teaspoonful of vinegar or some vaseline. The latter you should carry with you, but, if you can direct the attention to so small a thing as looking for and bringing the articles to you, you will help to break up the extreme tension. All the time you are preparing these things before your patient, assuring her—if it be a girl—that you are not going to cut or to use any instruments whatever.

Now take out of your pocket a long lead-pencil. Place one end against the middle of one of the cotton pledgets and pull the cotton well down over the end of the pencil. Now apply vaseline quite plentifully over the outside of the cotton, then say to the patient: "See how soft and smooth this is it won't hurt; now I'm going to push this up your nose just as gently as can be." And at once



Drug-room and office in Doctor Brigham's car.

you introduce the pledget, carefully pushing up till you get even with the top of the palate. Now elevate the end of the pencil in your hand and push horizontally back and over the palate. The lessened resistance will tell you when the posterior naris is reached. Withdraw the pencil and begin to make traction on the end of the string which you have all the time held in your left hand. The resistance offered to your traction will show that the posterior naris is in opposition with

the pledget. The blood now all comes out of the anterior nostril in increased volume.

The cotton smeared with vaseline, in being passed to the posterior naris, anoints the whole nasal tract as well as furnishes an impervious backing to the posterior outrush of blood.

On the morrow, when this artificial obstruction is removed, the vaseline renders this an easy matter, for there is no rending of scabs and dried blood, for the coagulum and cotton are inserted with vaseline and the delicate mucous membrane is fully protected. The withdrawal of the whole mass is an easy work.

Vinegar is one of the best of styptics, and is always at hand.

Of course, there are bleeders, in whose case the bleeding will come from some other mucous surface. In that case, other means are necessary. For many years, in these special cases, I have used atropine, 1-50 grain, and usually let the patient chew the tablet between the front teeth and allow to absorb from the mouth. But when I was gravely assured by the oculists that there was a remote danger of increasing intraocular tension, and thereby aggravating or perhaps producing a glaucoma, I desisted and found in hyoscyamine (used in the same way) an entirely reliable substitute.

While atropine and hyoscyamine are isomeric and isomorphous, they are not the same; yet, in their action on the dilatation of the blood-vessels they show precisely the same results. But now that the king of hemostatics—emetine—which for half a century has been waiting in the wings of the theater, has unostentatiously stepped to the center of the stage into the full glow of the footlights, we have no further need of assistance in this line.

Detroit, Mich.

C. S. COPE.

#### MEDICAL SOCIETIES

The purpose of a medical society should be, to gather the medical fraternity together for mutual benefit, socially, professionally, and financially. Other organizations meet at stated periods for the same purpose. Miners, carpenters, merchants, barbers, bankers, all have their meetings and devise ways and means to better their conditions in life. They care not what view others take of their action, they act independently of outside criticism. If they agree to open their business places or

to close them at a specified time, they do that very thing, regardless of what others do or say. They are a unit in carrying out their decisions. If any of these organizations decide to raise the price of their product or to advance the price of their labor, they bring it up for discussion, vote on the proposition, back up their vote with their signature, then carry out their decision in the daily routine of their business.

But, how is it with this and most other medical societies? My observation is, that very little has been accomplished by our society. We meet and discuss subjects that, if carried out in our practice, would benefit, not only the physician himself, but his profession as well. Miners and carpenters meet, and say, "We must have so much an hour for so many hours' work." They all agree to it, and then carry it out.

Barbers meet and decide upon a certain price for their work. They carry out the change in price, regardless of what you or I may say. You go to a barber, a miner, a carpenter or a merchant and ask the price for certain work or for a certain product, and they will tell you immediately without hesitation. Go to another in the same line of business, and he invariably will tell you exactly what the other fellow said.

See? They are united. On the other hand, let a physician be called to a case, and he will get out his pencil and figure out the distance at so much a mile, and make it, say, \$5.00, then proceed to charge the patient \$3.00 or \$3.50. He thus brands himself as a coward and a deceiver. Confinement cases in our county are \$10.00 plus mileage. Yet, how few there are who carry this out. Some do, I know, but I know some who do not. Drugs lately have advanced many percent; still, who is charging 75 cents or \$1.00 for prescription instead of 50 cents? We keep on charging the same price to others and pay the increase ourselves, and for no other purpose than to run a skin-game on competitors and play busy, when it is very little money anyone of us, even the busiest, is making. Eight physicians out of ten who ever get ahead financially either have used trickery in getting their wealth, or else inherited or married it.

What has this or any other medical society done for you individually? Can you blame a physician for not belonging to the society when it accomplishes nothing for him? Show outside doctors that the society really does things, and every practitioner in the country will be glad to become a member and

attend every meeting. I consider it a waste of time to meet and accomplish nothing.

Here are a few suggestions as to how to improve our society as a whole and to benefit individual members:

1. Have a definite purpose to accomplish something at each meeting.
2. Put forth special efforts to have all physicians in the county present. (Give them something to do.)
3. Carry out in practice what is discussed at the meetings.
4. Report every meeting in your state medical journal. (Let our brother physicians know we are alive.)
5. What is said and done in a medical meeting should be held as secret and sacred as if said or done in a masonic lodge.
6. Let's do something, or quit.

This paper was recently read before a medical society by an Illinois physician.

"KIRK."

#### CALCIUM SULPHIDE IN GRIP

I have had excellent results with calcium sulphide in cases of grip, so widely prevalent at present; and in the details of one of these cases others probably will be interested. It is as follows:

The patient was a young man of 17 years, a clerk. When I saw him, at 7 o'clock in the evening, he had a temperature of 103.5° F.; respiration was 26; pulse, 120. He complained of headache, pain in the chest, and was coughing up large amounts of white frothy serum mingled with a little unclotted blood. There were bubbling rales such as I had never heard before, with a "whistling" sound in both lungs. Apparently a case of pneumonia.

I gave him granules of calcium sulphide, 1-6 grain each, one to be taken every twenty minutes, until complete saturation was secured; this to be followed by two compound cathartic pills. A cold compress was ordered placed over the chest until the fever fell. Belladonna every hour.

The next morning when I called, the right lung was cleared up; the headache was gone; pain in chest better; temperature, 99 degrees; respiration, 20. The left lung still emitted rales, but lessened. I gave belladonna and bryonia. On the fourth day, the lungs were cleared, temperature was normal, respiration also was normal; he had no headache, but a slight laryngeal cough had come on. Left some iodized lime, with orders

to let me know if the cough continued. I have not heard from him since.

How's that, brethren? But, wait, the boy told me of having had pneumonia five years before. This statement I doubt, although his parents insist it is true. I got pay for only four calls—however, I got a new family added to my list.

V. M. J.

Chicago, Ill.

[Doctor Candler tells me that calcium sulphide is acting beautifully in the cases of grip so common this year. He uses it in association with quinine and calx iodata. Another remedy giving most satisfactory results is a combined pneumococcus and streptococcus bacterin. Read Doctor Biehn's paper, this issue.—ED.]

#### CONFESSIONS OF AN UNKNOWN PHYSICIAN

In the dizzy whirl of life's great battle, the surface of observable things attract the attention almost exclusively. The deeply laid plans and subtle intrigues of selfishness hide behind the suave manners that are cultivated in order to conceal them. We are all hypocrites—more or less.

The practice of the art of medicine affords opportunities, to those who wish to accept them, for unlimited deception, unrivaled immorality, and unbelievable treachery. These favorable conditions for viciousness tend to produce men who live double lives, lives in which the good shows resplendent to the casual observer, and thus the devilish part is obscured. The truth in its complete nakedness, the "altogether," if you please, seldom comes before us for our edification.

In the instance which prompts this little narrative, the frank admissions of the submerged part come from a physician who lived, apparently, as you and I live, who enjoyed the confidences of thousands, and who left the earthly stage of human acting credited with having added considerable to the sum total of general human happiness. He was called a good man and a successful physician. Peace be to his ashes! And this is his confession:

"The twilight of a fairly brilliant life now warns me, with its shadows, that eternal rest is not far away. I say 'brilliant' life, because the clouds of sorrow, sin, and self-condemnation have not shut out the sunshine of happiness to a very large extent from my day of life.



"Where I have infringed the restrictions of moral, social, and legislative law, in order to gain personal ends, I have freely offset these transgressions with kindly acts for the true happiness of others. The confines of my radius of personal action have been defined entirely by my whims and fancies. I have escaped apprehension simply through the use of clever conduct. Conscience, that guardian-angel, has not approached very near to me for many years, although she used to walk close by my side. Sympathy, Love, and Kindness have been companions whose friendship I have much enjoyed, although they never met Sincerity in my company. Virtue, Truth, Selfdenial, and Religion were all introduced to me by my mother when I was quite young, but they departed many years ago, and I have not seen their faces since. Today, by the mellow light of Time's lantern, I notice that, while Contentment is near my side, Regret is not far away, and Humbleness is ready to clasp my trembling hand. My memory is faltering, my step no longer sure, and the frost of life's Winter is on my brow.

"Early observations taught me that shrewd suaveness, apparent friendliness, and clever flattery were sure assets for a successful life. I learned the lesson well, and have cashed in abundantly.

"Now, as I hesitate to catch a breath and my old heart skips a beat or two, I wish to be frank and, speaking from a grinding experience of many years, tell you who read these words that my pathway is not the best one for you to follow. Scan it closely as I picture it in words, and let my warning serve to direct your steps to a better road.

"As I finished my medical course at college, I stepped forth, from the nicotine-scented amphitheater of knife-carved seats into the arena of contest, like a king. My dreams were beautiful with the glare of glory, the gilt of gold and the flowers of gratitude. Trouble with her bastard children were nowhere to be seen, and around me stood proud Pomposity, condescending Philanthropy, and unexplainable Egotism.

"But, I had factors of success in my possession. I shook hands fervently with people whom I did not like, extended favors freely to those who treated me with disdain, and graciously continued to do professional work for those who smashed me in the face with gross ingratitude. My wife was a true helpmate, and whenever I failed to carry out this very practical program in the least she would kindly remind me of my omissions.

"I soon found that Integrity, while charming from the viewpoint of theory, needed a veil to make her more generally acceptable; so, I skilfully obscured her lovely face as I carefully extracted the cork from my placebo-bottle, smoothed down the ruffled feathers of family wrongs with the delicate fingers of Falsehood, and gently covered the nakedness of Truth with at least the leaf of a fig-tree.

"I was not a trained nurse, yet, I soon learned to 'nurse' my patients, so that the dimensions of my monthly statements assumed more satisfying proportions.

"I found that, when but a simple remedy was actually needed, the ledger would look better if I added to the treatment a few inoffensive tablets, a little gentle rub-on, and a mild laxative. The quite generally needed eliminant kindly served as a slip-by for Conscience.

"I was naturally very sympathetic, and occasionally, when I observed a hopeless invalid stepping painfully close to the grave, with no possible chance of evading it, it seemed an act of mercy to give him a euthanasic push, with my hypodermic syringe, into peaceful rest.

"Surgical work always appealed to my ambition, and, as I weighed the chances of individual success or failure, the possibility of mistakes and the misty prospects of the end in view, I reassured my growing doubts with the thoughts that coffins are seldom opened, and even that cold cash is warmer than a corpse. Like other amateur surgeons in small-town hospitals, I floundered haphazard through major operations, sometimes meeting with surprising success, and I kept up my supply of cases by dividing the fee with the doctor who was too nerveless to do the job himself.

"Morally I was naturally a clean man, but the straight path of virtue did not seem quite so easy to follow when circumstances crowded human instincts to the limit. For example, did it not seem kind and considerate when some winsome female who yearned for maternity, but who was denied by the adverse condition of an old derelict, received the treatment that her case demanded?

"I have always been a strict prohibitionist, publicly, but I have consumed quite a large amount of peruna and other potables that do not put a stain upon the dry ballot, so far as anyone can see.

"You who read this frank confession must not think that I take pride in parading these

misdeeds before you. Now, as the years decline and the gathering gloom of life's November separate the real from the shadows, I renounce and abjure all deviations from the spirit of right, and sadly come to my mind these words:

"Of all sad words of tongue or pen,  
The saddest are these, 'It might have been.'"

A. D. HARD.

Marshall, Minn.

### TONSILLITIS — THE LOCAL TREATMENT

Here, very briefly, is my experience with tonsillitis and, in a general way, my course of treatment:

The diagnosis, as a rule, is readily made, of course. The duration of the attack will depend upon the treatment; in a large proportion of the cases treated by me, it is cured in from twenty-four to thirty-six hours. I proceed as follows:

On my first visit, I swab the throat with a 10-percent solution of nitrate of silver; and not only do I paint the tonsils, but also the anterior and posterior pillars and the uvula. These details are important. Internally, I give calomel, 1-6 grain every hour, for six doses (in the evening); also the following mixture:

Tincture of ferric chloride.....m. 30  
Potassium chlorate.....grs. 10  
Glycerin.....drs. 3  
Water, enough to make.....ozs. 3

Directions: Give 1 teaspoonful every hour.

This is the promptest and most reliable cure I know of.

To prevent tonsillitis, always wear rubber overshoes when going out in damp weather.

V. P. PISULA.

Everson, Pa.

### TUBERCULOSIS TREATED WITH EMETINE

I wish to report two additional cases of tuberculosis in which emetine gave excellent results. See my article in January *CLINICAL MEDICINE*, page 82.

Case 1. Ralph A. I gave tuberculin, alteratives, eliminatives, and other remedies for a whole year. Some tubercle-bacilli were observed in the sputum and the feces. There was alternate constipation and diarrhea. Sometimes the feces were mixed with pus and blood, and this I had been unable to control until I gave emetine hydrochloride once a

day and, later, every third day for about two months. The stomach and bowels became normal, the tubercle-bacilli disappeared, and the man is gaining every day. I may save three-fourths of one lung and one-fourth of the other.

Case 2. Mrs. S showed a strong reaction under a test for tuberculosis. There was cough, emaciation, a daily rise of temperature, and dysenteric stools, which contained blood and pus. I gave codliver-oil and the hypophosphites, also one pint of cream every day. In addition, I administered emetine hydrochloride, one dose every day for twelve days, and then every third day for six doses. Result: No more tubercle-bacilli, digestion and elimination good. Is going to get well.

I am snatching time to write this when I ought to be in bed, but I want to let the "family" know.

T. M. STEWART.

Canistota, S. D.

[Whether or not emetine will prove of great value in tuberculosis, remains to be proven. As a rule, it probably is not wise to continue emetine injections more than two weeks without intermission.—Ed.]

### THE CRITIC AND GUIDE

*The Critic and Guide* comes out in its January issue in a larger and improved form. It now has incorporated with it our old journal-friend and brother, *The Physicians' Drug News*, thereby adding some 5000 new subscribers to its list of readers.

*The Critic and Guide* is one of the journals which I always read. I do so for several reasons: First, because I find so much in it with which I disagree; and healthy disagreement is one of the best mental tonics in the world. Another reason why I like *The Critic and Guide* is because Editor Robinson has the "punch"; he says what he thinks without reservation, and when he hits at an evil (or what he believes to be an evil) he strikes hard. Still another reason why I like it is because it discusses questions which most men are afraid to consider at all, and prominent among these are problems of sex.

In the new *Medical Critic and Guide*, there is a larger percentage than formerly of short, practical, helpful therapeutic suggestions. This will add enormously to its value and popularity. I wish every reader of *CLINICAL MEDICINE* could read the editorials on "War and Venereal Disease," "Too Much Cesarean Section," "Something About Smoking," and

"Excessive Drinking Among Women"—to mention a few only. But, really, there isn't an *uninteresting* article in the whole number.

#### MEDICAL CONTROL OF A GOVERNMENT IRRIGATION PROJECT

Although for four and one-half years the government town of Arrowrock was maintained 20 miles above this city (Boise, Idaho), while construction of the great Arrowrock dam—the highest in the world—was in progress by the United States Reclamation Service, there did not occur one death from contagious disease. This is a remarkable fact, say health-experts, when considering that during all that time there were employed approximately 20,000 men. Arrowrock camp had a maximum population of 1500 people; but, completion of the dam now finds it vanished like the Arab and his tent.

The government has about finished its work there, but the buildings erected, to house the superintendents, mechanics and laborers, have been razed and salvaged. What was once a magnetic scene of activity, as men, divided into three shifts, performed the work to wedge a massive concrete, arch-shaped structure between canyon-walls a mile high across the Boise River channel, blocking the flow of that stream into a reservoir 18 miles long, is no more. Today, the dam stands 348.5 feet above a bedrock of granite, to which it is anchored 91 feet below the river-bed. Impounded back of it is enough water to flood the entire city of New York and suburbs with a foot of water.

All through work on the dam, both in the excavating for it and on and about its sides, as it started to rise above the base, the loss of life was comparatively small during the four years it took to build it; less than a dozen men so employed being killed. The government exercised every care to safeguard those employed, both in actual construction and in the camp or town of Arrowrock itself.

All men before being employed were given a brief physical examination by the resident physician, for the purpose of determining their physical fitness for the work and to eliminate undesirables. Whenever doubt existed as to a man's condition, a more complete examination was made.

A well-equipped hospital was maintained and a competent physician was on duty to care for cases of sickness or injury. The resident physician was also the chief sanitary officer, and the camp-foreman carried

out his instructions in all matters pertaining to sanitary conditions or general prophylactic measures. The maintenance of all camp-buildings and grounds in a neat and sanitary condition was carried out under the direction of the camp-foreman. All bunk-houses, dormitories, and other buildings were swept and cleaned every day by the janitors and camp-men. These buildings were scrubbed out about every two weeks, and the bunk-houses and dormitories, including the springs and mattresses, were fumigated, by spraying with a liquid disinfectant, about once in two or three weeks. At frequent intervals, all sleeping-quarters were fumigated by burning sulphur.

Outside of the main camp were two hundred or more private residences, erected by foremen, mechanics, and laborers. In order that the general health and sanitary conditions of the whole community might be kept up to standard, health-rules were enforced that applied to all private residences as well. Airtight metal garbage-cans were provided about the camp and the residences, and all garbage was deposited in them, collected every few days, and burned. The mess-house refuse was fed to the hogs. The most scrupulous care was exercised in keeping the privies sanitary. All entrances were screened against flies, and, besides, these pests were caught in specially prepared traps. It has been humorously remarked by men who worked there that once a fly was seen on the premises.

Pure mountain-water was supplied from a creek, being carried in a flume to the camp, deposited in a tank, and thence piped to practically every building. A sewerage system with septic tank was installed, serving all buildings and discharging into the river below. Sickness was, in this way, held down to the minimum, and there were no epidemics of any kind. There occurred but one case of typhoid-fever, and it is believed that it originated outside the camp.

The camp had its commissary, its large mess-houses, serving as high as 60,000 meals a month; its club, reading-rooms, picture-shows, and the like, to keep those employed happy. Liquor was banished.

The net result was that the building of the dam, considered an engineering masterpiece in irrigation, was done in record time. Work started on it in 1911. Five years was the estimated time for completing it and to impound water behind it the year following. It was constructed, however, in four years and water impounded this season—the fourth

year. The dam derives its name from the fact that a high granite cliff on one side was used by Indians, in the early days, into which they shot their arrows to inform members of the direction they were traveling.

The total cost of the dam was \$5,000,000. The estimated cost was \$7,500,000. The water behind it is used to irrigate lands in the Boise project in western Idaho comprising 240,000 acres, all of which is owned either privately, by the state or under homestead entry by actual settlers. The dam weighs over a million tons. If placed a ton upon a 20-foot wagon, the line of wagons would reach from San Francisco to New York and double back to Cleveland; if piled 10 feet square, the column would reach a height of 29 miles. The water in the reservoir is 200 feet deep; it would submerge Boston 8 feet; Chicago, 2 feet, and the entire District of Columbia 5 feet deep.

All Idaho joined in the dedication of this dam, as completed October 4, with appropriate dedication-exercises. The ceremony attracted thousands of visitors from many states, and also many settlers from the project.

H. A. LAWSON.

Boise, Idaho.

### INJURIOUS INSECTS

No doubt that many kinds of insects are not only unpleasant to the human body, but certainly also cause and communicate diseases. That this problem has not received more attention is because only a few men are devoting themselves to research-work of this nature. Metchnikoff, Patton, Margo, Strauss and Girault are among the most prominent workers on this subject.

Professor Metchnikoff of the Pasteur Institute of Paris states that bedbugs are concerned in conveying intermittent fevers, anthrax, and also cerebrospinal meningitis. I remember about a small town of Austria where endemic gastric catarrh appeared and that bedbugs were considered the cause of it.

It has been found experimentally that mice, living as well as dead, very often are attacked by bedbugs. Certain observers (Strauss, Girault) claim that rats spread plague, septicemia and all kind of infectious diseases. Castellani mentions that in places where many flies exist diarrhea and dysentery occur. Flies also are the cause of some skin diseases. In my own immediate neighborhood I saw recently a case of erythema multiforme and urticaria attributable, no doubt, to a swarm

of flies. The patient was a child of 2 1-2 years, and as soon as the house was free of the pests the trouble was over quickly, without medical intervention.

The cimex columbarius causes what is known as "dog-disease." The patient complains of headache and constipation, experiences rise of temperature, the eyeballs become tender and there is a characteristic suffusion of the conjunctiva. Mild bronchitis, gastric tenderness, cramps, and epistaxis are the chief symptoms, together with a rash-like urticaria or erythema multiforme. The disease lasts two to four days and terminates by crisis, but convalescence is slow and there may remain a pronounced anemia.

Wellmann draws attention to the noxious larvae of certain coleoptera and lepidoptera, some of which may cause severe pain and skin eruption, while nervous symptoms may follow contact with stinging caterpillars. He has also a note on two species of myriapods, and states that their poisonous secretion probably is from the foramina repugnatoria located at the sides of the segments and which look like tracheal stigmata. Someone has had myriapods sent from the southern Sudan, some of which are said to be much dreaded by the natives, and these specimens are being determined by Professor Werner, of Vienna.

The cimex rotundatus is distributed throughout Europe and North America, and its bite causes terrible itching, general irritation, and, finally, eczema.

Ants spread cholera, dysentery, and enteric fever; and, indeed, all those diseases due to contamination of food. There is definite proof that ants convey the germs. Many interesting cases are mentioned in the literature, in which ants were known to act as disease-carriers.

S. R. KLEIN.

New York, N. Y.

### DEATH OF DOCTOR MILLICAN

We are sorry to announce the death, at the age of 62 years, on November 28, in London, of Dr. Kenneth W. Millican. Doctor Millican had many friends in this country, where he made his home for a number of years. In 1897, he became associate editor of *The New York Medical Journal*, later, editor of *The St. Louis Medical Review*, and still later, member of the staff of *The Journal of the American Medical Association*. In 1911, he returned to London, where he became associate editor of *The Lancet*.

# Just Among Friends

A DEPARTMENT OF GOOD MEDICINE AND GOOD CHEER FOR THE WAYFARING DOCTOR

Conducted by GEORGE F. BUTLER, A. M., M. D.

THE following paragraphs conclude the excerpt from the address of President Cabot at the last meeting of the Mississippi Valley Medical Association, the majority of which was printed in this department last month.

Doctor Butler asks us to apologize for the shortness of his contribution to this issue. He has been suffering from the prevailing epidemic of grip and for a week or more has found it impossible to do literary work. His usual quota of the "good stuff" will appear next month.—Ed.

Personally, I have an abiding dread of state-medicine in a democracy, because of my recognition of the essential inefficiency of democracy. Whatever may be the beauties of this form of government, efficiency is not among them; and, though I quite realize that it is possible to worship efficiency as a goal to far too great an extent, I also recognize that inefficiency in medicine may well prove a fatal defect. I can not construct any theory of state-medicine in a democracy which does not appear to me likely to ruin, not only the democracy, but medicine.

Therefore, I look forward to the development of group-medicine with the hospital as its center, such hospitals to be under the management of trustees who, it is to be hoped, will take their duties much more seriously than do most trustees of today.

It will probably be objected that this will involve the treatment of all patients in institutions, but this will not of necessity result, unless it be thought desirable. There is no substantial objection to the hospitals' staff making visits at any reasonable instance, without loss of the important advantages of medical grouping. It does not even seem to me impracticable to conduct country practice in sparsely settled districts upon a hospital basis. It would seem to me entirely feasible to use the towns and smaller cities as centers from which medicine should radiate. The younger members of the organization would do the work in the outlying

districts, living there, if necessary, but always keeping in close touch with their hospital-center and being promoted as experience and opportunity should dictate.

It would thus come about that the younger practitioners would have thrown upon them the more laborious work, while the older members of the group would occupy the positions requiring sounder judgment and fuller development, but neither the activity nor the enthusiasm of youth.

In this way we might preserve all that is best in competition for that scientific achievement. We could undoubtedly permit the development of individuals along the lines best suited to their peculiar capacity and get from each what he was best able to give. We should avoid the scandals of inhuman charges and of indecent exploitation of suffering humanity by the sharks of the profession, and we might well avoid the tragedy by which the impecunious young doctor must select general practice, for which he is ill equipped, because he can not afford to devote himself to the pursuit of pure science, for which he is best fitted.

I can not leave this subject without admitting that I am not unmindful of the undoubted defects of the system which I have just described. I do not for a moment overlook the danger that we may come to regard efficiency as a god, that we forget that the individual is a patient and think of him only as an instance of disease. I am not unmindful of the danger of losing that broad culture which was developed in the physicians of the last generation. But these dangers seem to me largely avoidable if clearly appreciated. I can not doubt that the pursuit of science will always bring out inherent qualities of greatness. I can not doubt that the care of the sick will always develop the humanities, and I can not doubt that a profession which has for its sole aim and object the mitigation of the sufferings of mankind will attract to itself men endowed with the same inherent possibilities for greatness that have always characterized the followers of Aesculapius.



## TO A DISSECTING-ROOM CLOCK

Beat on, thou clock (Time's heart) on th' wall,  
O'er the hearts that are stilled below;  
With thy systole and diastole  
Eternities ebb and flow.

How still, on their chilly beds of stone,  
Lie they of Life's lowest rung!  
From the fitful fevers of World and Flesh,  
Resting, the old and young.

Could we draw from their naked souls the veil  
(As we strip their flesh) with a hand,  
We should see our brothers, under the skin,  
And seeing, would understand.

What hopes were locked in thy stony breast,  
Old man, ere thy sun went down?  
Or you, some one's girl, who, with reckless hand,  
Tore the blossoms from Life's fresh crown?

But not for these, by thy hands, old clock.  
Will the Future's veil be rife;  
For, hours are dead and Time is not  
In this valley of shadows—of Life.

Beat on, thou clock (Time's heart) on th' wall,  
O'er the hearts that are stilled below;  
With thy systole and diastole,  
Eternities ebb and flow!

Philadelphia, Pa.

HILTON A. WICK.

IF IT 'TIS, AS IT'TIS, IT CAN'T BE ANY  
TISSER

What's the use to stew and fret  
And worry like a sinner,  
'Cause in the chase or in the race  
You don't come out the winner?  
So, don't you cry when hard you try  
The mark to hit—and miss her.  
If it 'tis

As it 'tis,

It can't be any tisser.

Altho' you're broke, just smile and joke,  
And never wear a frown.  
When you're flat upon your back  
You can't get further down.  
Things can't be no worse, you see,  
And you have this commiser',  
If it 'tis

As it 'tis,

It can't be any tisser.

So, work away, through all the day,  
Altho' it takes your muscle;  
You sure will get a fair show yet  
If you just get up and hustle.  
Don't you mind, altho' the wind  
Does blow a perfect blizzar'.  
If it 'tis

As it 'tis,

It can't be any tisser.

Make the best of what you've got,  
Don't say, "This life is bitter."  
Keep up your nerve and never swerve,  
Nor ever be a quitter.

Altho' you're poor, don't you get sore,  
And worry out your gizzar'.

It it 'tis

As it 'tis,

It can't be any tisser.

If it is as it 'tis,  
It *can't* be any tisser.  
What's the use, you silly goose,  
To worry out your gizzar'?  
For, if you to fret and stew and sweat,  
It makes you still more miser'.  
If it 'tis

As it 'tis,

It can't be any tisser.

You may howl and you may growl  
'Till everything is blue,  
Providence aint agoin' to run  
A special train for you.  
The world won't shake each step you take:  
To speak still more expliciter:  
If it 'tis

As it 'tis,

It can't be any tisser.

What is to be for you and me,  
I don't know, I confess;  
But, if we do what we orter to,  
Things will turn out for the best.  
So do not go and pay out dough  
Consultin' some old wizar';  
If it 'tis

As it 'tis,

It can't be any tisser.

Keep up the fight with all your might,  
You'll win out at the last.  
What is to be of course will be,  
Tho' it never come to pass.  
So, do your best and then rest  
Up easy, and consider:  
If it 'tis

As it 'tis,

It can't be any tisser.

G. W. BURNER.

Johnstown, O.

APHONIA CURED BY STEREOPLASTIC  
MEANS

Two interesting instances of the cure (more or less complete) of loss of voice were reported last year, at a meeting of the Laryngo-rhinologic Society of Wien. (*Wien. Med. Woch.*, 1914, No. 49), by F. Neumann and D. Kofler, respectively. The cause of the aphonia in one case (of 20 years' duration) was, one of the vocal cords being scarred and degenerated as a result of diphtheria in childhood; in the other, an atrophied vocal cord following paralysis [also diphtheritic?].

The cures were effected by injecting paraffin into the disabled and shrunken cords, thus causing the bands to approach and, so, to admit of their vibrating. The paraffin, in the more successful case, had a melting point of 42° C.

# Among the Books

## PRACTICAL MEDICINE SERIES

The Practical Medicine Series. Edited by Charles L. Mix, A. M., M. D. Series 1915. Volume III. The Eye, Ear, Nose and Throat. Edited by Casey A. Wood, M. D., Albert H. Andrews, M. D., and Wm. L. Ballenger, M. D. Chicago: The Year-Book Publishers. 1915. Price \$1.50.

The year 1914 was not especially prolific of ophthalmic investigation in any particular department, unless one excepts such subjects as glaucoma and the conservation of vision; the world war is probably responsible for the marked decrease in the output of literature on the eye and its diseases. Nevertheless, there has been more than enough of interesting and important articles, monographs, and other publications, to supply, in review or abstract, several volumes of this series. The same is true of laryngology and otology. The editors, in fact, confess that their embarrassment has been the embarrassment of riches rather than of poverty; and they have been obliged to omit, for lack of space, the good work of many contributors. Not the least interesting feature of the book is to be found in the comments appended to the abstracted accounts of papers by others which the editors have felt called upon to make.

## PRESTON: "FRACTURES AND DISLOCATIONS"

Fractures and Dislocations. Diagnosis and Treatment. By Miller E. Preston, A. B., M. D. With a Chapter on Roentgenology by H. G. Stover, M. D. With 860 illustrations. St. Louis: C. V. Mosby Company. 1915. Price \$6.50.

The avowed object of this book is to offer the reader a working knowledge of the subject in as few words as possible, avoiding for the most part all theories and arguments which are void of practical value for the surgeon who has to diagnose and treat the various injuries met with in actual practice. The author has endeavored to make the reader an eye witness of the various deformities, as they appear immediately following

the accident, on the ground that there is much to be learned by inspection in the average case of dislocation and fracture and that the information thus gained may be put to immediate use without waiting for the x-ray returns. In pursuance of this policy he has illustrated the book very plentifully with photographs, taken, to be sure, under rather unfavorable circumstances, but still clear enough to familiarize the reader with the appearance of the various clinical deformities.

The time-honored classification of fractures under one heading and dislocations under another has been abandoned, and the more practical method adopted of considering the injuries according to the anatomical region in which they occur. That the value of the x-ray in this branch of surgery is not belittled by the author is indicated in the inclusion of a separate section on this subject by Doctor Stover, of the University of Colorado. The practitioner is emphatically recommended to make roentgenology a routine measure in dealing with bone cases.

## BETHEA: "MATERIA MEDICA"

Practical Materia Medica and Prescription Writing. With illustrations. By Oscar W. Bethea, M. D., Ph. G., F. C. S. Philadelphia: F. A. Davis Company. 1915. Price \$2.00.

As the title implies, this book is devoted chiefly—indeed, almost exclusively—to the practical aspects of the subject; to the preparation, selection, compounding, and prescribing of remedies.

As the author very pertinently points out in his preface, the therapeutic and pharmacological phases of the subject are exhaustively treated in many excellent volumes and are ably taught in medical colleges, but the practical part is often neglected. Both books and teachers too often neglect to impress upon the student what preparation of a remedy will best meet the demands of the particular conditions, the precautions to be observed in employing them, how to prescribe them correctly, whether alone or in combination, and if in combination, with what forms and preparations of other agents, what is the

safest and most convenient form of administration, and so on, and so on.

Such instruction is the particular object of this book, and in this capacity it will, we feel sure, appeal to the student, to the teacher, and to the general practitioner who is obliged to be himself the student and the teacher.

#### ORMSBY: "DISEASES OF THE SKIN"

*Diseases of the Skin: For the Use of Students and Practitioners.* Illustrated with 303 engravings and 39 plates. By Oliver S. Ormsby, M. D. Philadelphia and New York: Lea & Febiger. 1915. Price \$6.00.

Doctor Ormsby is the man upon whom the mantle of James Nevins Hyde and of Frank Hugh Montgomery fell when these two illustrious dermatologists passed away. He confesses his indebtedness to the works of his distinguished colleagues in the preparation of this book. Many illustrations have also been reproduced bodily from Doctor Hyde's textbook.

The present work is thoroughly up to date. All advances are duly noted. The literature of dermatology has been carefully searched and reviewed, in order that the pages of this treatise may reflect the subject as faithfully and completely as the limits of a single volume will permit. The newer methods of diagnosis and treatment, so far as they are of proven value, are incorporated, together with the results of recent research in etiology and pathology. Opinions of experienced dermatologists are freely quoted.

The scope of the book is extended to include diseases of the hair, the nails, and the mucous membranes, all of which, of course, properly belong to the skin. The balance between the academic and the clinical phases of the subject is well preserved, with here and there a slight excursion into the historic and bibliographic. The physical features of the volume are excellent, and do the publishers great credit. The illustrations are especially worthy of mention; and, of course, illustrations are a peculiarly important part of a work on skin diseases.

#### ROBINSON: "SEXUAL IMPOTENCE"

*A Practical Treatise on the Causes, Symptoms, and Treatment of Sexual Impotence and Other Sexual Disorders in Men and Women.* By William J. Robinson, M. D., Editor of *The Critic and Guide* and *The American Journal of Urology and Sexology*; Author of "Never-Told Tales" and other works.

Fourth edition, revised and enlarged. New York: The Critic and Guide Company, 12 Mt. Morris Park, West. 1914. Price \$3.00.

There are very few physicians in this country who, if they were requested to give the name of the authority on the sexual diseases, would not reply, almost involuntarily, "William J. Robinson." Anyone who has read his book on "Sexual Impotence" will understand at once why this would be the answer. Doctor Robinson writes of things with which he is familiar. He, therefore, is in a position to enrich his pages with scores of illustrative cases, and, so, the answers to the questions arising in the reader's mind are found in some absolutely illuminating clinical experience. It is this familiarity with the subject, breathed into every paragraph and every page, that makes this book the most practical and most comprehensive, as well as the most interesting, work on the subject that this reviewer ever has seen.

If you were to ask this writer as to the distinguishing features of the book, he would say, the absolute candor with which Doctor Robinson discusses every phase of his subject. He is never influenced by precedent, and consequently his conclusions are frequently refreshingly different from those of other writers upon sex-subjects—as when he points out that masturbation is not inevitably harmful to the "victim"—and to this subject he devotes ten of his most interesting chapters. Among other topics to which much attention is given may be named: coitus interruptus and its variants; pollutions and spermatorrhea; the causes, symptoms, clinical varieties, and treatment of male and female impotence; sterility; and priapism. The final chapter is devoted to prescriptions.

#### STARLING: "PHYSIOLOGY"

*Principles of Human Physiology.* By Ernest H. Starling, M. D. Second edition. With 566 illustrations. Philadelphia: Lea & Febiger. 1915. Price \$5.00.

Under the formalism of anatomy, the living body appears as a sort of set piece, much the same as the cadaver, which one dissects, except that the machinery in the cadaver has stopped, filled, as to its vessels, with a given quantity of blood, which is kept in motion by an automatic pump, and wired with an intricate scheme of nerve trunk and exchanges.

With the study of physiology, however, the subject takes on an entirely different aspect. It becomes apparent that the body, instead of being a static structure, is rather

in the nature of a visible dynamic process—a short-circuit arc, so to speak, between two poles, the higher and lower potentials of which consist, respectively, of the anabolic and katabolic influences of its environment, whose structural form represents simply the plastic molding of the medium into lines of least resistance and whose coefficient of vitality may be expressed by the net potential divided by the resistance. The structural forms are the ultimate reactions of the cells to the kinetic dynamism that constitutes what we call life; they are the paths blazed by this dynamism between its two poles. Function determines structure; and function is the kinetic adaptation of the parts to the welfare of the whole.

All of which simple and unifying conception of the human body finds illumination in Professor Starling's masterly work on physiology. It is, in very deed and truth, the work of a master. Every structure in the body is dragged, as it were, to the tribunal of physiology, to determine its functional value from this larger standpoint. Physiology is reduced to elemental principles and indisputable links established between the elemental functions and the higher functions of life.

It is needless, in these days, to point out the practical value of such a physiology. He is the most skilful and rational physician who can discern the course of pathologic processes and apply the remedial agencies at a point nearest to their functional origin and furthest from their structural effects. The signs of the time point strongly to a state of knowledge, not so far distant, when all disease shall be reconnoitered and repulsed at these functional outposts and the sphere of medical influence be brought within that field which lies between normal function and abnormal structure—the field of pathologic physiology. To the attainment of this state, works like that of Professor Starling make an enormous contribution. This latest edition of his admirable book may well be characterized as the last word in physiologic research, especially in the realm of metabolism.

#### GANT: "GASTROINTESTINAL DISEASES"

Diarrheal, Inflammatory, Obstructive, and Parasitic Diseases of the Gastrointestinal Tract. By Samuel Goodwin Gant, M. D. Illustrated. Philadelphia and London: The W. B. Saunders Company. 1915. Price \$6.00.

Explaining his motive in writing this book, the author says that many times he has de-

sired information concerning certain phases of diarrhea and other intestinal disorders, but could not find it except by scanning an enormous amount of current literature; a task requiring considerable time and labor; and eventually repeated experiences of this kind convinced him that a compilation covering diarrhea in all of its phases would prove useful alike to internist, pediatrician, and surgeon. He was asked many times by physicians why he was devoting so much time and space to so generally recognized and easily controlled a disease, and his answer was, that his experience as a teacher had taught him that physicians generally do not understand the various types of diarrhea, their significance, and their treatment.

Here, then, we have both the motive and the *motif* of Doctor Gant's work. It presents to students and practitioners a complete, yet practical, treatise on the etiology, symptoms, diagnosis, and treatment of acute and chronic diarrhea and allied diseases of the gastrointestinal tract, all arranged in logical and convenient form for quick reference. The relation of parasitic diseases to diarrhea is fully discussed, and there is a special chapter on examination and diagnosis. Doctor Gant is a specialist who writes all too seldom and too little. But when he does write, the product is always well worth while; and so it is in this instance.

#### SHATTUCK: "MEDICAL TREATMENT"

A Synopsis of Medical Treatment. By George Cheever Shattuck, M. D. Second edition, revised and enlarged. Boston: W. M. Leonard. 1915. Price \$1.25.

This work is an attempt to offer, clearly and concisely, a set of sound principles of treatment, based on well-known pathology. The methods described are selected from those which have been tried at the Massachusetts General Hospital or in private practice. Most of them have been taught by Prof. F. C. Shattuck, Dr. William H. Smith, or by others on the staff of the Hospital or of the Harvard Medical School. The author does not pretend that any of these men would subscribe fully to everything here set forth or that further advances will not require revision.

In this edition, as in the first, completeness has been sacrificed to brevity, but new material has been added and many alterations have been made. More reliance than before has been placed upon personal experience, although the information about salvarsan has been derived chiefly from recent literature.

# Condensed Queries Answered

While the editors make replies to these queries as they are able, they are very far from wishing to monopolize the stage and would be pleased to hear from any reader who can furnish further and better information. Moreover, we would urge those seeking advice to report their results, whether good or bad. In all cases please give the number of the query when writing anything concerning it. Positively no attention paid to anonymous letters.

## Queries

QUERY 6164.—“The Old Problem of Propagation.” V., Arkansas, writes: “Some years ago, women wanted me to ‘do something’ to stop them from breeding. Now they want me to start them breeding. Can you tell me what to do or give them? I am serious about this.”

The present writer is inclined to believe that women today feel very much as their grandmothers did; that is to say, some desire maternity; others dread it. Not a year passes in the practice of the average physician without his encountering requests to prevent the bearing of children and equally urgent appeals to produce fruitfulness.

A very few moments’ consideration will, we are sure, cause you to realize that the very procedure that would prove effective in one woman’s case would fail with another. The cause of nonfecundity must always be ascertained, and, in the absence of definite knowledge as to the woman, it is absolutely essential that the condition of the man receive attention. For, it must be borne in mind that women who had been “sterile”—that is, had no child by their first husband—have borne a child within a year with a different mate. It is an interesting fact that a woman may fail to conceive by one man, yet, bear children to another; yet, the same man, unable to impregnate this particular woman may prove capable of impregnating any number of other women.

On the other hand, the man may (usually through an earlier improperly treated *Neisser-bacillus* infection) be afflicted with azoospermia. Frequently malposition of the uterus is responsible for sterility in the female; then, also, the vaginal or cervical secretions may prove fatal to the most active of spermatozoa.

The subject, unfortunately, is altogether too vast to be intelligently considered in the scope of this department. To anyone really interested, we suggest the study of Robinson’s

“Treatment of Sexual Impotence and Other Sexual Disorders in the Male and Female.”

QUERY 6165.—“Tumor Near Bladder.” F. C. F., Illinois, has submitted a specimen of urine, for examination, with the following brief history of the case: “A farmer, 69 years of age, complains of frequent urination, a burning sensation when urinating, and pain in the lower region of the bladder. He has no fever. Percussion and palpation disclose dulness or flatness on the right side of the bladder region, where also an appreciable mass is felt. The abdomen is slightly swollen. The patient feels weak and exhausted. He has external ulcerated hemorrhoids and a prolapsed rectum. I fear malignancy.”

Unfortunately, you omitted to state the amount of urine voided in a 24-hour period, consequently we are unable to estimate the urea and the total solids. We note that the reaction was strongly alkaline, and there were present considerable numbers of colon-bacilli, staphylococci and streptococci.

The exact nature of the “mass” in the abdomen, of course, must be ascertained. You do not definitely state its location. There may be present a cystitis and a pericystitis.

It would be well, we think, to dilate the anal sphincter, inject the hemorrhoids, and correct the prolapsus ani.

The strong possibility of prostatic involvement in this case must not be lost sight of.

On general principles, we suggest the injection of an appropriate bacterin, one dose every third day; also, the internal administration of a combination of the following: Hexamethylenamine, grs. 5; acid sodium phosphate, grs. 10; tartaric acid and sodium bicarbonate, for effervescence, also, arbutin, gr. 1; this taken every four hours with a glassful of thin barley-water. Your patient might also advantageously receive papain



pepsin, and berberine before meals, and the arsenates of iron, quinine and strychnine, with nuclein, after eating.

Hamameloid, gr. 1-3 to gr. 1-2; collinsonoid, gr. 1-3, and eupurpuroid, gr. 1-3, may be given in alternation with the hexamethylenamine and arbutin.

If the patient objects to radical treatment for the hemorrhoids, try moderate dilatation of the sphincter (digital), and prescribe a mildly astringent ointment to be applied after stool and on retiring.

Drastic purgatives or even very active laxatives are, of course, undesirable. If there is any difficulty in securing free evacuation of the intestine, order a phenolphthalein compound tablet, to be taken with a glassful of water, at bedtime. Purified petrolatum (pure or in emulsion), when retiring, will also meet the conditions. If there is pericystitis, suprapubic or perineal drainage is essential.

QUERY 6166.—“Shall I Dispense?” L., Ohio, writes: “I do not know what to do about laying in a stock of drugs for dispensing purposes; in fact, somehow the idea of dispensing does not appeal to me strongly and I am trying to avoid it as long as possible. Two firms have left at my office an assortment of tablets, capsules, and such, these to be paid for only as used. Somehow, I feel that, if I am to do any self-dispensing at all, I'd prefer to use the active principles. I should like to have you suggest a not too extensive list of remedial agents most necessary for a doctor in general practice to carry. So far, I have been using but very few of the trial preparations mentioned.”

If you decide to do your own dispensing, we can assure you that the alkaloids and allied products, if intelligently used, will prove success-makers. CLINICAL MEDICINE has, during the past year, published several articles covering this very ground rather fully. The list of remedies named by Doctor Candler, in his paper entitled “Making Good in Medical Emergencies” (beginning in January, 1914, CLINICAL MEDICINE), can hardly be improved upon; still, for general dispensing, various other standard preparations must be carried in stock.

Obviously, doctor, it is extremely difficult for one man to make a perfectly satisfactory selection for another practitioner. In the first place, it is for you yourself to decide just how much you are prepared to invest. In this connection, please remember that it is economical to buy in quantity; and, as practically all the standard active-principle

preparations do not deteriorate, it is quite safe to do this. If you invest in one of the larger medicine-cases offered, you will be in position always to give the right remedy for virtually any condition confronting you at any time and wherever you may happen to be; while, with a well-selected supply of standard remedies at your office, you can maintain effective medication, secure definite results, and be independent of the druggist's stock.

If you desire to make out a list of simples and compounds such as appeal to you, it will give the present writer pleasure to revise it and suggest such alterations as experience has taught him might prove advisable. Meanwhile, you will doubtless be interested in the article entitled “Palatable Prescribing for Children,” which appeared in the September, 1915, number of CLINICAL MEDICINE.

QUERY 6167.—“Adenitis of Uncertain Origin.” R. K. M., Oregon, forwards a small fragment of tissue taken from the floor of an ulcer located in subcutaneous tissue. The disease involves the lymphatic glands in the cervical region and is said to be a sequel of an attack of smallpox five years ago. There are cicatrices of older ulcerations along the lymphatics in this region, showing that the superficial cervical glands were involved. The existing trouble, we are told, seems to have followed along the structure of the mandible, also involving the lymphatic glands adjacent to the superior maxilla, and there are signs of purulent matter in the antrum of Highmore. Further:

“The present outbreak of activity dates from July 4, 1915, with acute neuralgic pain in the right side of the face. The suffering has been extreme, but only within the past two weeks has there been any sign of purulent accumulation in the antrum; that is, discharge in the nasal cavity. Will you kindly have a test made of the specimens I am sending, and send me the pathological finding; also tell me what serum I should use—I strongly fear tetanic convulsions.

“The ulcer is extremely slow in its progress, owing, I believe, to the blood depravity existing for months. The nervous phenomena are severe and the nervous cycles are extremely hard to manage. The pain yields to morphine (1-2 grain) and acetanilid compound tablets, given once or twice in the twenty-four hours. Small doses of hyoscine and morphine were given, earlier, for the pain, but are not now required. Acid fruits seem to disagree, as does also all protein-bearing food.

The temperature has been subnormal throughout. The small fragment is the only specimen I could procure, as the patient will not permit making a scraping for examination.

"My location is in central Oregon, where access to hospital advantages cannot be had. Physicians are not numerous and drug supplies not easy to procure, on account of the primitive transportation and distance. Any indicated biological serum would be appreciated. I greatly feel the need of your report on the pathology of the case."

The specimen sent, unfortunately, was altogether too small to make a section properly; however, you seem to have to deal with a somewhat serious condition, and you may possibly have to eradicate the entire gland or even chain of glands. Unfortunately, you do not give us any idea of the age of your patient. It is a question, of course, whether the adenitis is really a sequel of variola; still, adenitis not infrequently follows rubeola, scarlet-fever, and other of the exanthemata. Occasionally after vaccination the axillary and more rarely the cervical glands may become involved. We assume that syphilis and tuberculosis can be excluded.

Send at once some of the pus and a blood smear, together with a specimen of urine (4 ounces from the 24-hour output, stating the total quantity voided) to your pathologist. If possible, under local or general anesthesia (not necessarily profound) incise or curette one of the more accessible glands and forward the entire debris.

The line of treatment you have followed is beyond criticism, although personally we should have been inclined to give very large doses of an iodine and nuclein, in alternation with phytolacca and echinacea. A very useful formula in such cases is: Calx iodata in association with arsenous iodine, nuclein and vegetable alteratives. Another useful preparation is one containing calx iodata, mercuric iodide and nuclein. However, in the majority of these cases of chronic suppurative adenitis, surgical intervention is absolutely necessary; not infrequently the most extensive dissection being called for.

An autogenous bacterin would be better, of course, than any stock preparation.

QUERY 6168.—"Osteoma?" W. C., Texas, asks us to offer diagnosis and suggestions as to treatment in the following case:

"A woman, aged 27, married 12 years, mother of one child 6 years old, is pregnant in the seventh month. She has had three

abortions or miscarriages. Her mother died in puerperium, cause unknown; her father is in good health, as are also 4 brothers and 2 sisters. Six years ago, she had what was called gallstones. She has never been stout, and prior to her last pregnancy usually weighed 112 pounds; her present weight is 132 pounds. Her pulse is about 100, somewhat tense; her temperature registers 99° F. She says that she now feels as well (or even better) as she usually did, except for pain and some swelling in the right clavicle, and for these treatment is sought. She thinks that as far back as a year ago there has been a little tenderness in the bone, beginning at about the center; but in the last two months she has had two severe attacks of pain. The minor two-thirds of the bone is probably more than twice as large as the clavicle on the opposite side, feels hard, and is tender to touch. There is pain in the right shoulder, and this extends up the side of the neck to the ear whenever a severe attack comes on. Her urine appears to be normal."

It is possible that you have to do with an osteoma, and an Abderhalden test might prove informative. What is the character of the pain—dull and persistent or intermittent and lancinating? Is the skin of the affected area at all reddened?

When sending blood to the pathologist, it would be well to forward also a specimen of urine (4 ounces from the 24-hour output, stating total quantity voided), and also report fully the results of a very careful physical examination. Pay particular attention to the heart-sounds, blood pressure, area of hepatic dullness, condition of pelvic organs, and other data. Ascertain whether distress is caused by the elevation of or by inward pressure upon the humerus. Is the mamma on the right side abnormal in any way? Give us all the light you can, doctor, then we shall be in a position to aid you more intelligently.

QUERY 6169.—"The Value of Pituitrin and Veratrine in Obstetrics." J. S. C., Oklahoma, reports a case of abortion as follows: "Multipara; pregnant two months; dead fetus; no pains; flowing thirty-six hours; very little dilatation. I gave 1 Cc. pituitrin, in one-half hour another dose, and again half an hour later the third dose of 1 Cc. Everything came away from the patient in less than two hours from the time she was first seen."

Describing another experience, J. S. C. writes:

"The woman, a primipara, was seized with eclamptic convulsions. The doctor first called saw her at about 8 o'clock in the evening, and he gave an injection of hyosine and morphine and left. He was called again at about midnight, and now ruptured the membranes, and also gave an injection of 20 drops of Norwood's tincture of veratrum viride, repeating this after a while. Nevertheless, the woman had had six more hard convulsions, and I found her in the last one when I first saw her at about 5 in the morning—having been called in the meantime. In addition to the narcotic and the veratrum, I learned, she also had received a purgative of some kind.

"After I had looked over the situation, the woman was at once given pituitrin, the injections being repeated twice at half-hour intervals, and after that she had no convulsions. Chloroform was given for a few minutes, to deliver the head over the perineum.

"In reflecting upon this case and considering Doctor Williams' claim of the absolute worthlessness of veratrum in these cases, I have wondered whether the pituitrin had any effect in controlling the convulsions. I probably shall never see enough such cases to decide this question; it may be, however, that in this remedy we have something of value, unless the result in this instance was merely a coincidence. What has the editor to say?"

Your experience and reflections interest us, but we venture to express the hope that at the next opportunity you will give the active-principle veratrine instead of any of the fluid preparations of veratrum, and then compare the efficacy of the former. Of late, the present writer has given veratrine and lobeline sulphate in alternation, and the results secured have been most satisfactory. The efficacy of veratrine in eclampsia has been so definitely proven that the assertion of any single person to the contrary cannot be taken seriously.

That pituitrin, by enabling the physician to empty the uterus very quickly, may prove an extremely valuable remedial agent, is a reasonable assumption. We trust that opportunity will offer to enable you to test this matter further and that you will report your experience for the benefit of the profession.

QUERY 6170.—"Leukoplakia Buccalis." G. B. S., Iowa, writes as follows: "To be regarded as having ability is, as a matter of course, accompanied by its inevitable penalty;

and here is an illustration. A man about thirty-six years of age has leukoplakia, which persists, although he has quit smoking and chewing tobacco. I have tried to gather information about the treatment, but could find nothing of recent date. If anything is known to cure this vexatious trouble, I naturally should like to learn about it, and I come to THE CLINIC, where you generally hand out the right advice."

First, doctor, let us thank you for your expression of confidence—which we always endeavor to justify. As to leukoplakia, that is a rather intractable malady, and any therapeutic procedures, in order to be really effective, must be based upon a clear understanding of the conditions underlying it. This skin affection is not, necessarily, a manifestation of psoriasis or a symptom connected with syphilis; for, the condition often arises and many times exists independently of these and other maladies. Unfortunately, the actual cause (or causes) is not clearly established.

As to your case, can you positively exclude lues or has the patient at any time received mercury in large doses? Or, is there any pronounced trouble in the digestive tract? For, in this writer's opinion, gastric or gastrointestinal catarrh is often an important factor.

When well developed, as already stated, the malady is most persistent and rebellious. The use of tobacco must be strictly prohibited (as you have done); also, thorough elimination—renal, dermatic, and intestinal—must be secured and maintained. The mouth should be washed out frequently with a 1-percent solution of sodium chloride, while balsam of Peru is to be applied to the lesions daily or every other day.

Internally, we should administer echinacea and iris between meals; papain, and berberine before eating; and two or three Bulgarian-bacillus tablets three times daily, instructing that these be crushed in the mouth and then washed down with a little water.

If you will submit to a reliable pathologist a specimen of your patient's urine (remembering the data required) and give us a clearer clinical picture, we may be in a position to make more definite therapeutic suggestions.

QUERY 6171.—"Dysmenorrhea." O. H. S., Indiana, writes: "I have an unusual case of dysmenorrhea, and am needing your advice. The patient is a girl of 17, strong, and well developed. Mother died of tuberculosis.

I have been with her during several of her more troublesome periods. On May 6, 1915, I was called at 7 p. m., and found her suffering severely with pain in the sides, in the region of the ovaries. I used morphine, 1-4 grain, with atropine, 1-150 grain, hypodermically, then used chloroform for one hour before she was easy. On May 7, the pains returned, and it required some treatment to relieve her. The flow did not begin until the 12th, being six days, you see, from the beginning of pain, and it lasted four days. On the 19th I began treating her locally by dilating cervix, as best I could without chloroform, and using tampons. As a result, in July, the menses were normal and painless. She did not come again for treatment and went away on a visit, and while gone had a very bad attack again. On August 5 I was called, she being in terrible pain, almost having convulsions. I used morphine and hyoscine, then chloroform for one hour before she was easy. No flow. So, on the 8th, she washed some clothing and ran around in the hot sun. At 8 o'clock I was called, and she was suffering intensely, almost in convulsions. I used morphine, 1-2 grain, atropine, 1-150 grain, and two ounces of chloroform, and she was but a very little better in two hours. I put her on apiol and ergot and left her to see another patient. I believe she will die in one of these attacks if not relieved. Now, if you can advise me I will be very glad. How would it do to remove the ovaries?"

As you will readily understand, doctor, it is impossible for us to prescribe intelligently for your patient without a clearer idea of basal pathology. You say, "How would it do to remove the ovaries? This surely would correct the trouble." In our opinion, it would be little short of a crime to perform such an operation upon a strong, well-developed, healthy girl of seventeen, simply because she suffers from dysmenorrhea.

It is almost certain the trouble will disappear with marriage, and if you will make a careful examination and institute correct therapeutic procedures, it is more than likely immediate relief may be extended.

You state that prompt improvement followed partial dilatation of the cervix. Why not anesthetize the girl and do a thorough dilatation, then, if there is congestion, uterine or ovarian, apply local depletion with glycerogelatin suppositories, every second night, first flushing the vagina with two quarts of very hot water. Internally, give Buckley's uterine tonic, one tablet three

times daily for ten days before the expected period, and, should pain occur, gelsemine alternated with cannaboid and atropine. Should this not prove effective, a very small piece of extract of belladonna or a few minims of a fluid extract may be applied to the cervix. This should be placed in a pledget of cotton, which should be moistened, and then placed in contact with the os, and be held in place with strips of gauze. Almost as good results follow painting the cervix with a few drops of fluid extract of belladonna.

Before instituting any treatment, however, ascertain the exact condition of the pelvic viscera; note also pulse rate, condition of sphincter ani, and the like. Does the girl suffer from constipation? If so, correct it.

QUERY 6172—"Multiple Neuritis of Alcoholics?" W. T. S., Ohio, asks us to outline "the best treatment for the painful stage of multiple neuritis of alcoholics." His patient is a merchant, aged thirty-seven, who has used alcoholics for many years. He has taken the Keeley cure twice in the last two years, but relapsed. Finally he stopped drinking, a few weeks ago, after a steady five-months' carouse. Most of this time he has had neuritis. The pain changes its location from day to day—being felt on the top of the foot, in the ankle, upper part or middle part of the anterior tibial region, behind the knee, in the thigh or hip. After a paroxysm the affected part is exceedingly sore or tender for many hours. Besides general tonics, hepatic stimulants, and the like, phenacetin, the salicylates, and sedatives have been given.

The treatment is practically the same in all forms of polyneuritis of toxic origin, but, above all, whether owing to alcoholism, plumbism or mercurialism, the cause (if discoverable) must be removed. Rest in bed is absolutely essential, and, if the patient is strong enough, he may be given a daily hot salt-bath, the immersion lasting at least fifteen minutes. If this is out of the question, have the body sponged with hot epsom-salt solution (1 ounce to 3 pints of water); then given an alcohol-rub, and finish with brisk friction with a rough towel. Systematic massage and the frequent application of the sinusoidal or faradic current prove beneficial in many cases.

Internally, lecithin should be given, with strychnine valerate and strychnine hypophosphite alternately. Occasionally strychnine sulphate, 1-30 grain hypodermically,

three or four times daily, proves more effective. In some cases, solanine works beautifully. Also, of late, chromium sulphate has been highly recommended for this affection.

Small doses of aconitine and colchicine have proven useful in the writer's practice. Where the electric current is unavailable, a preparation of ichthyol, belladonna and aconite may be applied to the painful area. A good formula is: ichthyol, one dram; extract of belladonna, 30 grains; extract of aconite, 1 dram; liquor plumbi subacetatis, 1 dram; lanum anhydric, 6 drams. Atropine and aconitine may, of course, be substituted for extract of belladonna and extract of aconite. Do not forget the value of saline elimination.

Externally, methyl salicylate, 1 dram to 1-2 ounce of lanolin, may be rubbed into the painful areas; but the high-frequency current (vacuum-electrode) undoubtedly produces the most rapid results, the pain frequently disappearing after one fifteen-minute treatment.

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 QUERY 6173.—“Possible Untoward Effects of Pituitrin.” A. P. South Dakota, has read that “very serious conditions” have followed after the administration of pituitrin, and now wishes us to tell him what those conditions are.

Our correspondent is correctly informed, as the following brief enumeration of the more important harmful consequences will show:

1. Rupture of the uterus or of the cervix has occurred several times, brought about by the sudden intense contraction of the womb and the forcible expulsion of the fetus through an undilated os. (2) A small fetus may, while in an improper position, be forced out into the vagina and, so, necessitate delivery with the forceps. (3) It has happened that the placenta has been detached prematurely, and this, naturally, given rise to profuse hemorrhage. (4) Undesirable systemic effects are among the possibilities, as will be seen by a study of the physiologic action of pituitrin.

In view of these facts, the present writer has come to the conclusion that this agent should never be administered until dilatation of the os is complete and the fetal presentation is positively known to be normal. Some-

times in the case of multiparas, although having a roomy birth-canal and with the fetus in satisfactory presentation, we have to deal with a so-called “lazy uterus.” It is here where pituitrin may be employed with advantage; but, like all active agents, it must be given intelligently, and then only when strictly indicated.

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 QUERY 6174.—“Hemorrhoids.” T. C. B., Kansas, writes: “I have met a number of patients who have been treated for hemorrhoids by a doctor who ‘puts something on the piles.’ It is said they disappear entirely in from twenty-four to forty-eight hours without pain or discomfort of any kind. The physicians who are using the method are not going to give the secret away so I ask information from your staff.

Frankly, we are at a total loss to explain this “cure.” No drug, or combination of drugs with which we are familiar could possibly produce such results. It is impossible to believe that the application of any substances would cause the disappearance of a pile in forty-eight hours; moreover the remedial agent which would prove effective in internal hemorrhoids would not have the slightest influence upon external piles.

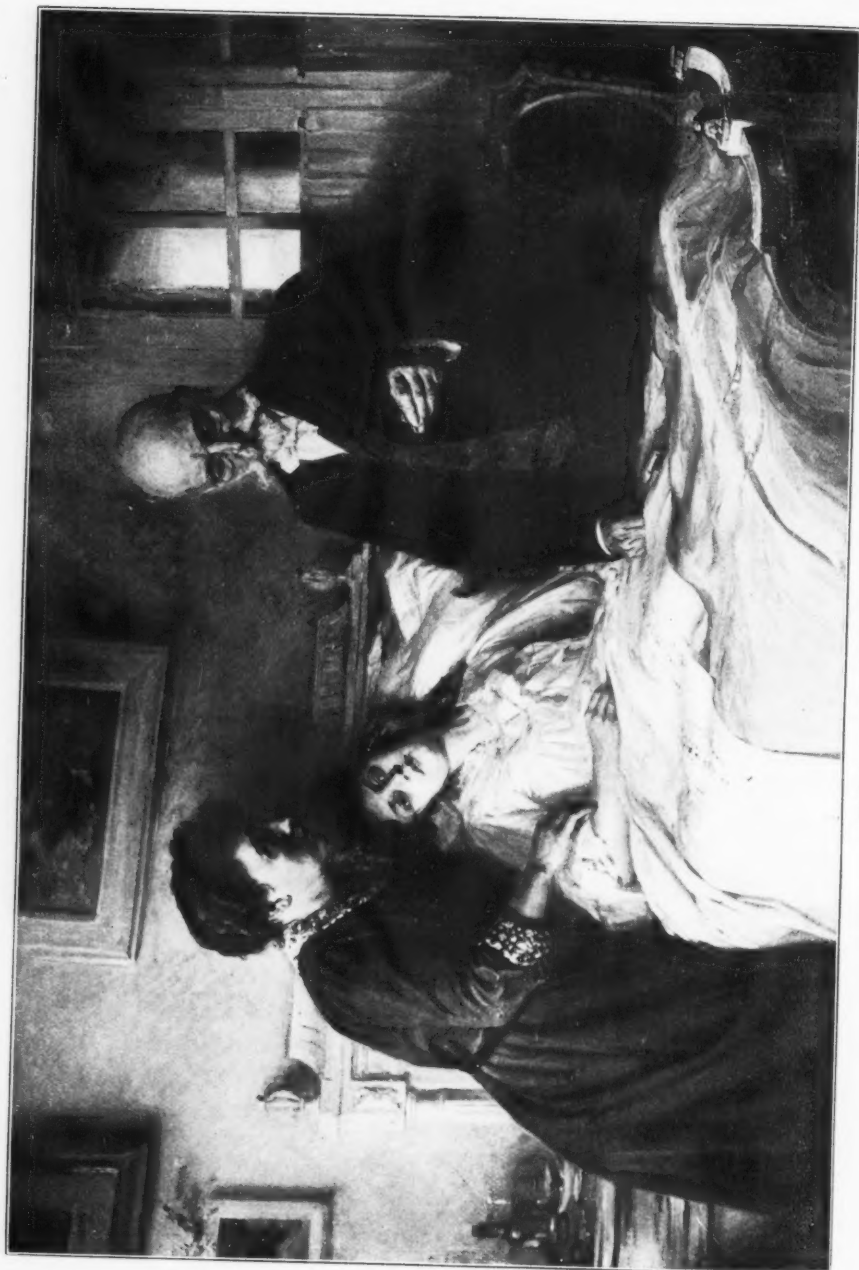
It would be well, we think, before accepting patients' statements to be quite sure that they did suffer from hemorrhoids, and also to find out whether the individual treating the tumors by such an application did not dilate the sphincter and before or after such anointing.

The writer has tried practically every combination of drugs, and he has yet to find any topical application exerting any very pronounced effect on even an ordinary hemorrhoidal tumor in forty-eight hours. We trust, you will endeavor to find out something more definite about this particular method of treatment. Who is the doctor who puts the “something” on? It is just possible he has learned to cone his thumb and fingers and replace therewith protruding hemorrhoids, anointing them with a cocaine ointment or some other anesthetic, sending the patients on their way firmly believing that they are cured.









"THE LITTLE PATIENT."—Michaud